

**NEW ISSUE**  
**Book-Entry-Only**

**Ratings: Moody's Aa2**  
**Standard & Poor's AA+**  
**Fitch AA+**

**CITY OF NORFOLK, VIRGINIA**  
**\$47,415,000**  
**Water Revenue Bonds,**  
**Series 2010**

**Dated: Date of Delivery**

**Due: November 1, as shown on the inside cover**

The City of Norfolk, Virginia prepared this Official Statement to provide information pertaining to its 2010 Bonds. This cover page presents a summary of selected information for your convenience and does not provide a complete description of the 2010 Bonds. To make an informed decision regarding the 2010 Bonds, you should read this Official Statement in its entirety. Unless otherwise defined, all capitalized terms used on this cover page are defined herein.

**Tax Matters**

In the opinion of Bond Counsel, under current law and assuming the compliance with certain covenants by and the accuracy of certain representations and certifications made by the City and other persons and entities described in "TAX MATTERS" on page 32, interest on the 2010 Bonds is (a) excludable from the gross income of the owners of the 2010 Bonds for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), (b) not a specific item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations and (c) excludable from the adjusted current earnings of certain corporations for purposes of computing the federal alternative minimum tax imposed thereon.

Bond Counsel is of the further opinion that interest on the 2010 Bonds is excludable from gross income for purposes of income taxation by the Commonwealth of Virginia (the "Commonwealth").

Bond Counsel expresses no opinion regarding any other tax consequence related to the ownership or disposition of, or the accrual or receipt of interest on, the 2010 Bonds.

See "TAX MATTERS" on page 32 regarding other tax considerations.

**Security**

The 2010 Bonds are limited obligations of the City payable solely from Net Revenues derived from the City's water system and other funds pledged for their payment under the terms of the Indenture between the City and U.S. Bank, National Association as Trustee. Neither the faith and credit of the Commonwealth nor the faith and credit of any county, city, town or other political subdivision of the Commonwealth, including the City, is pledged to the payment of principal of, premium, if any, or interest on the 2010 Bonds.

**Redemption**

See inside cover of this Official Statement.

**Authority for Issuance**

Ordinance No. 43,931 adopted by the City on July 20, 2010, authorizes the issuance of the 2010 Bonds.

**Purpose**

Proceeds of the 2010 Bonds will be applied to (i) provide financing for certain capital project costs associated with the City's water system capital improvement program, (ii) fund the debt service reserve fund, and (iii) pay issuance costs of the 2010 Bonds.

**Interest Payment Dates**

Semi-annually on May 1 and November 1, beginning May 1, 2011.

**Registration**

Book-Entry Only; The Depository Trust Company. See page 3 of this Official Statement.

**Closing/Delivery Date**

On or about September 30, 2010.

**Bond Counsel**

McGuireWoods LLP, Richmond, Virginia.

**Financial Advisor**

Public Financial Management, Inc., Arlington, Virginia.

**Registrar/Paying Agent**

U.S. Bank, National Association.

**Issuer Contact**

Director of Finance of the City. (757) 664-4346.

**Dated: September 14, 2010**

**\$47,415,000**  
**Water Revenue Bonds, Series 2010**  
**(Base CUSIP Number 656009)**

**MATURITY DATES, AMOUNTS, INTEREST RATES, PRICES AND YIELDS**

**\$26,060,000 Serial 2010 Bonds**

<b>Maturity Date (November 1)</b>	<b>Principal Amount</b>	<b>Interest Rate</b>	<b>Yield</b>	<b>Price</b>	<b>CUSIP Suffix</b>	<b>Maturity Date (November 1)</b>	<b>Principal Amount</b>	<b>Interest Rate</b>	<b>Yield</b>	<b>Price</b>	<b>CUSIP Suffix</b>
2011	\$ 910,000	2.000%	0.380%	101.754%	GT8	2021	\$1,240,000	2.500%	2.690%	98.187%	HD2
2012	925,000	2.000	0.530	103.045	GU5	2022	1,285,000	4.000	2.810	110.386*	HE0
2013	945,000	2.000	0.700	103.961	GV3	2023	1,335,000	4.000	2.890	109.649*	HF7
2014	970,000	3.000	1.000	107.987	GW1	2024	1,390,000	4.000	2.980	108.827*	HG5
2015	1,000,000	3.000	1.350	108.083	GX9	2025	1,445,000	4.000	3.050	108.192*	HH3
2016	1,030,000	3.000	1.600	108.087	GY7	2026	1,505,000	4.000	3.130	107.472*	HJ9
2017	1,065,000	4.000	1.870	114.073	GZ4	2027	1,565,000	4.000	3.230	106.580*	HK6
2018	1,110,000	4.000	2.080	114.220	HA8	2028	1,630,000	4.000	3.330	105.697*	HL4
2019	1,155,000	4.000	2.310	113.778	HB6	2029	1,695,000	4.000	3.430	104.823*	HM2
2020	1,200,000	4.000	2.530	113.012	HC4	2040	2,660,000	3.750	3.830	98.575	HY6

**\$3,585,000 3.500% Term 2010 Bonds due November 1, 2031, Priced at 98.093% to yield 3.630%, CUSIP Suffix: HP5**

**\$5,965,000 4.500% Term 2010 Bonds due November 1, 2034, Priced at 106.247% to yield 3.750%, CUSIP Suffix: HS9**

**\$4,435,000 4.250% Term 2010 Bonds due November 1, 2036, Priced at 102.892% to yield 3.900%, CUSIP Suffix: HU4**

**\$7,370,000 4.000% Term 2010 Bonds due November 1, 2039, Priced at 99.316% to yield 4.040%, CUSIP Suffix: HX8**

**OPTIONAL REDEMPTION**

The 2010 Bonds maturing prior to November 1, 2020, are not subject to optional redemption prior to maturity. The 2010 Bonds maturing on or after November 1, 2021, are subject to optional redemption prior to their respective maturities on or after November 1, 2020, at the option of the City, in whole or in part (in increments of \$5,000) at any time, at par plus the unpaid interest accrued on the principal amount to be redeemed to the date fixed for redemption.

**MANDATORY REDEMPTION**

Certain 2010 Bonds are subject to mandatory redemption as described in "DESCRIPTION OF THE 2010 BONDS – Redemption" on page 5.

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\* Maturities priced to the November 1, 2020, optional redemption date.

## **CITY OF NORFOLK, VIRGINIA**

### **CITY COUNCIL**

Paul D. Fraim, Mayor

Anthony Burfoot, Vice Mayor  
Alveta V. Green  
Andrew A. Protopyrou  
Paul R. Riddick

Thomas R. Smigiel  
Dr. Theresa W. Whibley  
Barclay C. Winn

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### **MUNICIPAL OFFICIALS**

Regina V.K. Williams, City Manager  
Darrell V. Hill, Director of Finance  
Kristen M. Lentz, Director of Utilities  
Bernard A. Pishko, City Attorney

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### **BOND COUNSEL**

McGuireWoods LLP  
Richmond, Virginia

### **FINANCIAL ADVISOR**

Public Financial Management, Inc.  
Arlington, Virginia

### **CONSULTING ENGINEER**

Black & Veatch  
Virginia Beach, Virginia

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All quotations from, and summaries and explanations of, provisions of law and documents herein do not purport to be complete and reference is made to such laws and documents for full and complete statements of their provisions. Any statements made in this Official Statement involving estimates or matters of opinion, whether or not expressly so stated, are intended merely as estimates or opinions and not as representation of fact. The information and expressions of opinion herein are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implications that there has been no change in the affairs of the City or the System (as herein defined) since the respective dates as of which information is given herein.

No dealer, broker, salesman or any other person has been authorized by the City or the successful bidder to give any information or to make any representations with respect to the City, the System or the 2010 Bonds, other than those contained in this Official Statement, and if given or made, such other information or representations must not be relied upon as having been authorized by the City or the successful bidder. This Official Statement does not constitute an offer to sell or solicitation of an offer to buy the 2010 Bonds in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

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## **OFFICIAL STATEMENT**

**Relating to the Issuance of**

**\$47,415,000**

**City of Norfolk, Virginia  
Water Revenue Bonds,  
Series 2010**

### **INTRODUCTORY STATEMENT**

The purpose of this Official Statement, including the information contained in the Appendices, is to furnish information relating to the City of Norfolk, Virginia (the "City"), its water supply, treatment, storage and distribution system (the "System" or "Water System") and its Water Revenue Bonds, Series 2010 (the "2010 Bonds") to be issued in the aggregate principal amount of \$47,415,000. This Official Statement has been authorized by the City for use in connection with the sale of the 2010 Bonds.

The 2010 Bonds will be issued pursuant to the Public Finance Act of 1991, Chapter 26 of Title 15.2 of the Code of Virginia of 1950, as amended (the "Act"). The 2010 Bonds are being issued under the provisions of a Master Indenture of Trust, dated as of November 1, 1993, as previously supplemented and amended (the "Master Indenture"), between the City and U.S. Bank, National Association, Richmond, Virginia, as successor Trustee (together with any successor, the "Trustee"), and an Eighth Supplemental Indenture of Trust, dated as of September 1, 2010 (the "Eighth Supplemental Indenture"), between the City and the Trustee. The Master Indenture and the Eighth Supplemental Indenture are referred to collectively herein as the "Indenture."

Certain capitalized terms not otherwise defined herein shall have the meanings set forth in the Indenture. See "DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE" included as Appendix C to this Official Statement.

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The 2010 Bonds constitute the seventh Series of Bonds issued under the Master Indenture. Prior Series of Bonds were issued on the dates and in the original principal amounts, with the outstanding principal amounts as set forth in the following chart:

**Prior Series of Bonds**

<b><u>Series of Bonds</u></b>	<b><u>Issue Date</u></b>	<b><u>Original Principal Amount</u></b>	<b><u>Outstanding Principal Amount</u></b>
Water Revenue Bonds, Series 1993	December 14, 1993	\$ 68,430,000	\$ 44,575,000
Water Revenue Bonds, Series 1995	August 17, 1995	115,680,000	84,425,000
Water Revenue and Refunding Bonds, Series 1998	November 24, 1998	84,605,000	66,095,000
Water Revenue and Refunding Bonds, Series 2001	October 21, 2001	35,000,000	29,660,000
Water Revenue and Refunding Bonds, Series 2005	March 23, 2005	22,810,000	21,150,000
Water Revenue Bonds, Series 2008	April 23, 2008	<u>\$ 58,415,000</u>	<u>\$ 57,450,000</u>
<b>Total</b>		\$384,940,000	\$303,355,000

The 2010 Bonds will be limited obligations of the City payable solely from Net Revenues derived from the System and other funds pledged for the payment under the terms of the Indenture. Neither the faith and credit of the Commonwealth of Virginia (the "Commonwealth") nor the faith and credit of any county, city, town or other subdivision of the Commonwealth, including the City, is pledged to the payment of the principal of, premium, if any, or interest on the 2010 Bonds. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS."

The 2010 Bonds will be issued in authorized denominations of \$5,000, or whole multiples thereof, and held in book-entry only form by The Depository Trust Company ("DTC"), or its nominee, as securities depository with respect to the 2010 Bonds. See "DESCRIPTION OF THE 2010 BONDS - Book-Entry Only System." The 2010 Bonds are subject to optional and mandatory redemption prior to their stated maturities. See "DESCRIPTION OF THE 2010 BONDS - Redemption."

All financial and other information presented in this Official Statement has been provided by the City and other sources that are believed to be reliable. The presentation of information is intended to show recent historic information and is not intended, unless specifically stated, to indicate future continuing trends in the financial position or other affairs of the System. No representation is made that past experience, as is shown by such financial and other information, will necessarily continue or be repeated in the future.

This Official Statement should be considered in its entirety, and no one subject discussed should be considered less important than any other by reason of its location in the text. Reference should be made to the laws, reports or other documents referred to in this Official Statement, including the Indenture and the Feasibility Study (as herein defined) for more complete information regarding their contents.

**AUTHORIZATION AND PURPOSE**

The 2010 Bonds have been authorized by Ordinance No. 43,931 enacted by the City Council on July 20, 2010. The City is issuing the 2010 Bonds to (i) provide financing for the costs of acquiring, constructing and equipping various improvements and environmental upgrades to the City's Water System, including the design costs



associated with such improvements, (ii) fund the debt service reserve fund and (iii) pay issuance costs of the 2010 Bonds. For the findings of engineering and financial studies relating to the capital projects and the issuance of the 2010 Bonds, see Appendix A which includes the Series 2010 Water Revenue Bond Feasibility Report is prepared by Black & Veatch, the City's Consulting Engineer, dated August 30, 2010 (the "Feasibility Study").

## **DESCRIPTION OF THE 2010 BONDS**

### **General**

The 2010 Bonds will be dated the date of delivery, and will mature on November 1 in the years and amounts and bear interest at the rates set forth on the inside cover page of this Official Statement. Interest on the 2010 Bonds will be payable semi-annually on May 1 and November 1, commencing May 1, 2011. The Trustee will act as paying agent for the 2010 Bonds under the Indenture. The 2010 Bonds will be subject to optional and mandatory redemption prior to their stated maturities as described herein.

### **Book-Entry Only System**

*The description which follows of the procedures and recordkeeping with respect to beneficial ownership interests in the 2010 Bonds, payments of principal of and interest on the bonds to The Depository Trust Company, New York, New York ("DTC"), its nominee, Direct Participants (as defined below) or Beneficial Owners (as defined below), confirmation and transfer of beneficial ownership interests in the bonds and other bond-related transactions by and between DTC, the Direct Participants and Beneficial Owners is based solely on information furnished by DTC.*

DTC will act as securities depository for the 2010 Bonds. The 2010 Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee), or such other name as may be requested by an authorized representative of DTC. One fully registered certificate will be issued for each maturity of the bonds and will be deposited with DTC.

DTC, the world's largest depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments from over 100 countries that DTC's participants (the "Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, the National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its Regulated Subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (the "Indirect Participants"). DTC has Standard & Poor's highest rating: AAA. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com) and [www.dtc.org](http://www.dtc.org).

Purchases of the 2010 Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 2010 Bonds on DTC's records. The ownership interest of the actual purchasers of the 2010 Bonds (the "Beneficial Owners") is in turn recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmations from DTC of their purchases. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owners entered into the transaction. Transfers of ownership interests in the 2010 Bonds are to be accomplished by entries made on the books of Direct or

Indirect Participants acting on behalf of the Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the 2010 Bonds, except in the event that use of the book-entry system for the 2010 Bonds is discontinued.

To facilitate subsequent transfers, the 2010 Bonds deposited by Direct Participants with DTC is registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of the 2010 Bonds with DTC and registration in the name of Cede & Co. or such other nominee does not effect any change in beneficial ownership. DTC has no knowledge of the identities of the actual Beneficial Owners of the 2010 Bonds; DTC's records reflect only the identities the Direct Participants to whose accounts the Bonds are credited, which may or may not be the Beneficial Owners. The Direct or Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of the 2010 Bonds may wish to take certain steps to augment transmission to them of notices of significant events with respect to the 2010 Bonds, such as redemptions, tenders, defaults and proposed amendments to the security documents. For example, Beneficial Owners of the 2010 Bonds may wish to ascertain that the nominee holding the 2010 Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners, in the alternative, Beneficial Owners may wish to provide their names and addresses to the registrar and request that copies of the notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the 2010 Bonds within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each District Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the 2010 Bonds unless authorized by a Direct Participant in accordance with DTC's Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the City as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the 2010 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Payments of principal of and interest on the 2010 Bonds will be made to Cede & Co. or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the bond registrar or paying agent on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Direct or Indirect Participant and not of DTC (or its nominee), the City or the bond registrar and paying agent, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the bond registrar and paying agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as securities depository with respect to the 2010 Bonds at any time by giving reasonable notice to the City and the bond registrar and paying agent. Under such circumstances, in the event that a successor securities depository is not obtained, the 2010 Bonds certificates will be printed and delivered.

The City may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository).

Neither the City nor the bond registrar and paying agent has any responsibility or obligation to the Direct or Indirect Participants or the Beneficial Owners with respect to (a) the accuracy of any records maintained by DTC or any Direct or Indirect Participant; (b) the payment by any Direct or Indirect Participant of any amount due to any

Beneficial Owner in respect of the principal of and interest on the 2010 Bonds; (c) the delivery or timeliness of delivery by any Direct or Indirect Participant of any notice to any Beneficial Owner that is required or permitted to be given to Holders; or (d) any other action taken by DTC, or its nominee, Cede & Co., as Holder, including the effectiveness of any action taken pursuant to an Omnibus Proxy.

So long as Cede & Co. is the registered owner of the 2010 Bonds, as nominee of DTC, references in this Official Statement to the Holders of the 2010 Bonds mean Cede & Co. and not the Beneficial Owners, and Cede & Co. will be treated as the only holders of the 2010 Bonds.

The City may enter into amendments to the agreement with DTC or successor agreements with a successor securities depository, relating to the book-entry system to be maintained with respect to the 2010 Bonds without the consent of Beneficial Owners or Holders.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the City believes to be reliable, but the City takes no responsibility for the accuracy thereof.

## **Redemption**

*Optional Redemption.* The 2010 Bonds maturing prior to November 1, 2020 are not subject to optional redemption prior to maturity. The 2010 Bonds maturing on or after November 1, 2021, are subject to optional redemption prior to their respective maturities on or after November 1, 2020, at the option of the City, in whole or in part (in increments of \$5,000) at any time, at par plus the unpaid interest accrued on the principal amount to be redeemed to the date fixed for redemption.

*Mandatory Redemption.* The 2010 Bonds stated to mature November 1, 2031 (the "2031 Term Bonds") are subject to mandatory redemption, in part, on November 1 in the years and at the principal amounts set forth below at a redemption price equal to 100% of the principal amount to be redeemed, plus the unpaid interest accrued to the date fixed for redemption:

### **2031 Term Bonds**

<u>Year</u>	<u>Amount</u>
2030	\$1,760,000
2031*	1,825,000

The 2010 Bonds stated to mature November 1, 2034 (the "2034 Term Bonds") are subject to mandatory redemption, in part, on November 1 in the years and at the principal amounts set forth below at a redemption price equal to 100% of the principal amount to be redeemed, plus the unpaid interest accrued to the date fixed for redemption:

### **2034 Term Bonds**

<u>Year</u>	<u>Amount</u>
2032	\$1,900,000
2033	1,985,000
2034*	2,080,000

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\* Final maturity

The 2010 Bonds stated to mature November 1, 2036 (the "2036 Term Bonds") are subject to mandatory redemption, in part, on November 1 in the years and at the principal amounts set forth below at a redemption price equal to 100% of the principal amount to be redeemed, plus the unpaid interest accrued to the date fixed for redemption:

**2036 Term Bonds**

<u>Year</u>	<u>Amount</u>
2035	\$2,170,000
2036*	2,265,000

The 2010 Bonds stated to mature November 1, 2039 (the "2039 Term Bonds") are subject to mandatory redemption, in part, on November 1 in the years and at the principal amounts set forth below at a redemption price equal to 100% of the principal amount to be redeemed, plus the unpaid interest accrued to the date fixed for redemption:

**2039 Term Bonds**

<u>Year</u>	<u>Amount</u>
2037	\$2,360,000
2038	2,455,000
2039*	2,555,000

*Notice of Redemption.* Any redemption of the 2010 Bonds is required by the Indenture to be made upon notice of redemption given by certified mail to DTC or, if the book-entry only system is discontinued as described above, by first class mail, postage prepaid, not less than 30 nor more than 60 days before the date fixed for redemption, to the registered owners of the 2010 Bonds to be redeemed and to the Municipal Securities Rulemaking Board (the "MSRB"), as set forth in the Indenture.

Each notice of redemption will contain, among other things, the CUSIP identification number and the number of the 2010 Bonds (or portions thereof) being called for redemption, the redemption date and price and the address at which the 2010 Bonds are to be surrendered for payment of the redemption price. Such notice may state that the redemption of the 2010 Bonds to be redeemed is conditioned upon the occurrence of certain future events, including, without limitation, the deposit of moneys, in an amount sufficient to effect the redemption, with the Trustee on or before the date fixed for redemption.

Any defect in such notice or the failure to mail any such notice to the registered owner of any 2010 Bond called for redemption will not affect the validity of the proceedings for the redemption of any other 2010 Bond. Any defect in such notice or the failure to mail any such notice to the MSRB will not affect the validity of the proceedings for the redemption of the 2010 Bonds. As long as the book-entry only system is used for determining ownership of the 2010 Bonds, the City shall send notice to DTC or its nominee, or its successor. Any failure of DTC or its nominee or of a Direct Participant or Indirect Participant to notify a Direct Participant, Indirect Participant or Beneficial Owner of any 2010 Bond called for redemption will not affect the validity of the proceedings for the redemption of such 2010 Bond.

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\* Final maturity

## **SECURITY AND SOURCES OF PAYMENT FOR THE BONDS**

### **Pledge Under the Indenture**

The 2010 Bonds, all Outstanding Series of Bonds and any Additional Bonds issued under the Indenture (collectively, the "Bonds") are limited obligations of the City payable from Net Revenues and reserves held for such purpose. The term "Net Revenues" is defined in the Indenture as Revenues less Operating Expenses. As defined in the Indenture, "Revenues" include all revenues, receipts and other income derived by the City from the ownership or operation of the System including, without limitation, investment earnings and transfers, if any, from the Rate Stabilization Fund, but excluding (i) any gift, grant or contribution to the extent restricted by the donor or grantor to a particular purpose inconsistent with its use for the payment of debt service on Bonds, Parity Indebtedness or Subordinate Debt, (ii) proceeds derived from insurance or condemnation and (iii) any transfers from the Revenue Fund to the Rate Stabilization Fund. "Operating Expenses," as defined in the Indenture, include all current expenses directly or indirectly attributable to the ownership or operation of the System, but do not include (i) any allowance for amortization or depreciation, (ii) deposits or transfers to the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund, the Repair and Replacement Reserve Fund or the Rate Stabilization Fund, (iii) payments for Existing Debt Service on City Obligations and (iv) expenditures which the City makes an election to capitalize.

The City may incur "Parity Indebtedness" equally and ratably secured by Net Revenues with the Bonds on terms and conditions similar to those required for the issuance of Additional Bonds. Parity Debt Service is not secured by the Debt Service Reserve Fund. The City also may issue "Subordinate Debt" secured by a pledge of Net Revenues that is expressly made subordinate to the pledge of Net Revenues securing Bonds or Parity Indebtedness or which is unsecured.

The City has entered into wholesale contracts with the United States Navy (the "Navy"), the Western Tidewater Water Authority (the "WTWA"), and the Cities of Virginia Beach, Chesapeake, and Portsmouth. Payments received by the City under these contracts constitute Revenues. See the section entitled "THE SYSTEM - Wholesale Contracts" and Appendix E, "SUMMARY OF WHOLESALE CONTRACTS," for a more detailed discussion of these contracts.

Neither the faith and credit of the Commonwealth nor the faith and credit of any county, city, town or other political subdivision of the Commonwealth, including the City, is pledged to the payment of the principal of, premium, if any, or interest on the 2010 Bonds.

### **Revenue Covenant**

The City has covenanted in the Indenture that it will establish, fix, charge and collect rates, fees and other charges for the use of and for the services furnished by the System, and will, from time to time and as often as appears necessary, revise such rates, fees and other charges, so that in each fiscal year ended June 30 ("Fiscal Year"), Net Revenues are not less than the greater of (i) the sum of 1.1 times debt service on Bonds and Parity Indebtedness and 1.0 times debt service on Subordinated Debt for the Fiscal Year and (ii) 1.0 times the funding requirements for transfers from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund and the Repair and Replacement Reserve Fund (the "Revenue Covenant").

### **Additional Bonds and Parity Indebtedness**

The City may issue Additional Bonds or Parity Indebtedness upon receipt of a written certificate of the Director of Finance or, at the City's option, the Consulting Engineer which states that the amount of the Net Revenues as received during any twelve consecutive months of the twenty-four months immediately preceding the issuance of the Bonds or Parity Indebtedness (the "Test Period"), as adjusted as set forth below, will satisfy the Revenue Covenant for the Test Period taking into account the maximum annual debt service due on (i) the Bonds and Parity Indebtedness then outstanding and (ii) the Bonds or Parity Indebtedness to be issued. The Net Revenues

which are permitted to be certified by the Director of Utilities or the Consulting Engineer to the Director of Finance may be adjusted as follows:

(a) If the City has increased the rates, fees or other charges for the services or use of the System, the Net Revenues for the Test Period will be adjusted to include the Net Revenues which would have been derived from the System during the Test Period as if such increased rates, fees or other charges for the services or use of the System had been in effect during the Test Period.

(b) If the City has acquired or has contracted to acquire any privately or publicly-owned existing water system, sewer system, sewage disposal system, solid waste collection or disposal system, stormwater collection or disposal system, or any other utility system that the City will consolidate with the System, the cost of which will be paid from all or part of the proceeds of the issuance of the proposed Bonds or Parity Indebtedness, then the Net Revenues derived from the System during the Test Period will be increased by adding to the Net Revenues for the Test Period the projected Net Revenues which would have been derived from the System if such utility system had been operated by the City as part of the System during the Test Period.

(c) If the City has entered into a contract on or before the date of the issuance of the proposed Bonds or Parity Indebtedness with any public body whereby the City has agreed to furnish services consistent with the services performed by the System, which contract (i) is for a duration of not less than the final maturity of the Bonds or Parity Indebtedness proposed to be issued, or (ii) if less than the final maturity of such Bonds or Parity Indebtedness, contains provisions obligating the party contracting with the City to pay in full its allocated share of capital improvements to the System needed to carry out the terms of the contract, then the Net Revenues of the System during the Test Period will be increased by the least amount which the entity receiving such services will be required to pay by the terms of the contract in any one year during which the City is to furnish such services and such Bonds or Parity Indebtedness are anticipated to be outstanding, after deducting from such payment the estimated amount of operating expenses and repair, renewal and replacement costs attributable in such year to such services.

(d) If there is an estimated increase in Revenues to be received by the City, as a result of additions, extensions or improvements to the System within three years after delivery of the proposed Bonds or Parity Indebtedness and the governing body of the City has taken official action authorizing the additions, extensions or improvements (and if the project involves another jurisdiction, the governing body of that jurisdiction has given appropriate approval), then the Net Revenues derived from the System during the Test Period will be increased by the average annual additional Net Revenues estimated for the first two full Fiscal Years after such additions, extensions or improvements are placed in service.

#### **Debt Service Reserve Fund**

The Bonds will be additionally secured by a Debt Service Reserve Fund established and maintained pursuant to the Indenture and held by the Trustee. The Indenture requires that the City must maintain on deposit in the Debt Service Reserve Fund an amount equal to the lesser of (i) the maximum principal and interest due on the Bonds then Outstanding in the current or any future Fiscal Year and (ii) 125% of the average annual principal and interest due on the Bonds then Outstanding in the then current and each future Fiscal Year (the "Debt Service Reserve Requirement"). The Debt Service Reserve Requirement may at any time be increased; provided, however, for any Series of Bonds, the amount required to be deposited to and maintained in the Debt Service Reserve Fund with respect to such Series of Bonds shall not exceed the amount which is permitted by the Internal Revenue Code of 1986, as amended (the "Code") to be applied from the proceeds of such Series of Bonds and still maintain the exclusion of interest on such Series of Bonds from gross income for purposes of federal income taxation. **Amounts in the Debt Service Reserve Fund equally and ratably secure the Bonds, but do not secure Parity Indebtedness.** As of September 30, 2010, the Debt Service Reserve Fund will contain approximately \$6,372,337 in cash or securities, as well as surety bonds from Assured Guaranty (formerly Financial Security Assurance, Inc.), Financial Guaranty Insurance Company, MBIA Insurance Company and Ambac Assurance Corporation guaranteeing a total of \$21,700,173.

## Other Debt

The City has issued general obligation bonds from time to time to pay for improvements to the System. The City anticipates that transfers described in the following section will be made from the General Reserve Fund to the City's debt service fund to pay the debt service on such general obligation bonds. The City expects that future capital costs for the System which are financed with debt will be paid from proceeds of Bonds issued pursuant to the Indenture. Since Fiscal Year 1980, the year in which the Water Utility Fund was first operated as a self-supporting enterprise fund, all debt service on general obligation bonds attributable to the System has been paid from revenues of the System. As of June 30, 2010, \$6,719,682 of general obligation bonds attributable to the System were outstanding of which \$2,822,993 of principal is scheduled to be paid during Fiscal Year 2011. The final payment on such general obligation bonds is due in Fiscal Year 2015.

## Flow of Funds

The Indenture provides that the City will collect and deposit in the Revenue Fund as received all Revenues derived from the ownership or operation of the System, except as otherwise provided for in the Indenture for investment income on certain funds and accounts created by the Indenture. Not later than the fifth business day before the end of each month, the City will make transfers from the Revenue Fund in the following order of priority:

*Operating Fund.* An amount such that the balance on deposit in the Operating Fund will be equal to not less than one-sixth of the Operating Expenses to be paid from the Operating Fund in the then-current Fiscal Year as set forth in the annual budget for the System.

*Bond Fund.* The amount necessary to make the following deposits:

(a) *Interest Account.* An approximately equal amount each month such that (after taking into consideration with respect to each Series of Bonds the amount then on deposit in the Interest Account, any amount to be transferred from the Capitalized Interest Account to the Interest Account pursuant to the terms of any Supplemental Indenture and any amounts to be drawn or paid under any Credit Facility or Hedge Agreement for deposit to the Account), on the fifth business day immediately preceding the next interest payment date for each Series of Bonds, there will be on deposit in the Interest Account an amount equal to the interest on the Outstanding Bonds of each Series to become due on such Interest Payment Date.

(b) *Principal Account.* An approximately equal amount each month such that (after taking into consideration with respect to each Series of Bonds the amount then on deposit in the Principal Account and any amounts to be drawn or paid under any Credit Facility or Hedge Agreement for deposit to the Account), on the fifth business day immediately preceding the next principal payment date for each Series of Bonds, there will be on deposit in the Principal Account an amount equal to the principal and accreted value of the Outstanding Bonds of each Series maturing or required to be redeemed on such Principal Payment Date.

*Parity Debt Service Fund.* An amount with respect to any Parity Indebtedness such that (after taking into consideration the amount then on deposit in the Fund and any amounts to be drawn or paid under any Credit Facility or Hedge Agreement for deposit to the Fund) if the same amount is transferred to the Fund each month preceding the next ensuing Interest Payment Date or Principal Payment Date for the Parity Indebtedness, there will be on deposit in the Fund an amount equal to the payment due on the Parity Indebtedness on such payment date.

*Debt Service Reserve Fund.* If the amount in the Debt Service Reserve Fund is less than the Debt Service Reserve Requirement, the amount of money remaining in the Revenue Fund necessary to increase the amount on deposit in the Debt Service Reserve Fund to the Debt Service Reserve Requirement, or all of the money remaining if less than the amount necessary.

*Subordinate Debt Service Fund.* Such amount with respect to any Subordinate Debt as may be determined by the City to be necessary to provide for the payment when due of the principal of and interest on the Subordinate Debt.

*Repair and Replacement Reserve Fund.* The amounts necessary to bring the balance in the Repair and Replacement Reserve Fund to the Replacement Reserve Requirement in not more than (i) thirty-six approximately equal monthly installments for the initial Requirement and (ii) sixty approximately equal monthly installments in the case the Requirement is increased or moneys are withdrawn from the Fund. The "Replacement Reserve Requirement" was initially established and remains at \$1,000,000. The City will review the adequacy of the amount of the Requirement and may increase or reduce (but not below the initial Requirement) such amount. Balances in the Repair and Replacement Reserve Fund may be used to pay for major repairs, additions and other capital improvements to the System and to make deposits to the Revenue Fund, Operating Fund, Bond Fund, Parity Debt Service Fund and Debt Service Reserve Fund.

*Rate Stabilization Fund.* The amounts necessary to bring the balance in the Rate Stabilization Fund to the Rate Stabilization Requirement in not more than twenty-four equal monthly installments. The City will review the adequacy of the amount of the Requirement and may adjust the Requirement at any time as it deems appropriate. Balances in the Rate Stabilization Fund may be transferred to the Operating Fund and will constitute Revenues. The City is not required to maintain any balance in the Rate Stabilization Fund.

*General Reserve Fund.* Any balance remaining in the Revenue Fund, after making the above deposits, will be deposited in the General Reserve Fund. Balances in the General Reserve Fund are not pledged to secure Bonds or Parity Indebtedness and may be used by the City for any lawful purpose. The City agrees to use amounts in the General Reserve Fund to cure any deficiency in the Operating Fund, the Bond Fund, the Parity Debt Service Fund and the Debt Service Reserve Fund. The City anticipates transferring from the General Reserve Fund to the City's general fund an amount equal to the sum of (i) debt service on general obligation bonds of the City issued to pay costs of the System, (ii) a payment in lieu of taxes and (iii) a return to the City for its investment in the System. These transfers to the City's general fund are not required by the Indenture.

In the event there are insufficient funds in the Revenue Fund to make the transfers required by the Bond Fund and the Parity Debt Service Fund, the City will allocate the available funds between the Bond Fund and the Parity Debt Service Fund in the proportion that the amount required to be deposited to each Fund bears to the total amount required to be deposited to both Funds.

See "DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE," included as Appendix C to this Official Statement for a further description of the flow of funds.

### **Limits on Enforceability**

The enforceability of the Indenture and the 2010 Bonds is subject to bankruptcy, insolvency, moratorium, reorganization and other state and federal laws affecting the enforcement of creditors' rights and to the extent that certain remedies under such agreements or instruments require, or may require, enforcement by a court, such principles of equity as the court having jurisdiction may impose. See "DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE - Events of Default; and Remedies; Rights of Bondholders" included in Appendix C to this Official Statement.

*Bankruptcy.* Chapter 9 of the United States Bankruptcy Code (the "Bankruptcy Code") permits a municipality such as the City, if insolvent or otherwise unable to pay its debts as they become due, to file a voluntary petition for the adjustment of debts provided that such municipality is "specifically authorized, in its capacity as a municipality or by name, to be a debtor..." Bankruptcy Code, §109(c)(2). Current Virginia statutes do not expressly authorize the City or municipalities generally to file under Chapter 9. Chapter 9 does not authorize the filing of involuntary petitions against municipalities such as the City.

Bankruptcy proceedings by the City could have adverse effects on holders of the 2010 Bonds, including (i) delay in the enforcement of their remedies, (ii) subordination of their claims to claims of those supplying goods and services to the City after the initiation of bankruptcy proceedings and to the administrative expenses of bankruptcy proceedings and (iii) imposition without their consent of a plan of reorganization reducing or delaying payment of the 2010 Bonds. The Bankruptcy Code contains provisions intended to ensure that, in any plan of reorganization not accepted by at least a majority of any class of creditors such as the holders of the 2010 Bonds, such class of creditors will have the benefit of their original claim or its "indubitable equivalent," although such "equivalent" may not



provide for payment of the 2010 Bonds in full. The effect of these and other provisions of the Bankruptcy Code cannot be predicted and may be significantly affected by judicial interpretation.

*Exclusion Under Uniform Commercial Code Article 9.* Legislation adopted in the 2000 Session of the Virginia General Assembly (the "General Assembly") changed Virginia's Uniform Commercial Code, Title 8.9 of the Code of Virginia of 1950, as amended ("UCC"), by bringing previously exempt municipal transactions within the purview of Article 9 of the UCC. This legislation had an effective date of July 1, 2004.

In the 2004 Session, the General Assembly enacted Chapter 296 of the 2004 Acts of Assembly, which adopted curative language reinstating the exclusion of governmental liens on revenues and other governmental assets from Article 9. The curative language provides the following:

1. Section 109 of UCC Article 9 excludes from the scope of Article 9: "a sale of promissory notes by the Commonwealth or a governmental unit of the Commonwealth in connection with or in furtherance of the exercise of the borrowing power of the Commonwealth or a governmental unit of the Commonwealth."

2. Section 2.1-304.1:2 of the Code of Virginia of 1950, as amended, provides that, except for security interests in goods or software, any security interests granted by the Commonwealth or a governmental unit of the Commonwealth to pay or secure any indebtedness is effective immediately without delivery, filing or other act. The lien of such security interest has priority over any other obligations of the governmental unit.

3. Section 703 of UCC Article 9 provides that security interests granted by the Commonwealth or a governmental unit before July 1, 2004, shall continue to be enforceable and maintain their priority effective as of before July 1, 2004.

Chapter 296 was enacted by the General Assembly and approved by the Governor on March 15, 2004, and was effective upon adoption.

## SOURCES AND USES OF FUNDS

The estimated sources and uses of funds for the 2010 Bonds are as follows:

### *Sources of Funds:*

Par Amount of the 2010 Bonds	\$ 47,415,000.00
Plus: Net Original Issue Premium	<u>2,161,274.75</u>
<i>Total Sources of Funds.....</i>	<u><u>\$ 49,576,274.75</u></u>

### *Uses of Funds:*

Project Fund	\$ 46,004,373.70
Deposit to Debt Service Reserve Fund	2,710,237.50
Underwriters' Discount	536,663.55
Costs of Issuance*	<u>325,000.00</u>
<i>Total Uses of Funds.....</i>	<u><u>\$ 49,576,274.75</u></u>

\*Includes legal, financial advisory, rating, printing and other costs of issuing the 2010 Bonds.

## DEBT SERVICE REQUIREMENTS

Annual revenue bond debt service requirements on the Outstanding Bonds, together with the 2010 Bonds, are shown in the table below. Totals may not sum due to rounding.

Fiscal Year Ending	Existing Revenue Bond Debt (as of 6/30/10)			2010 Bonds			Total Revenue Bond Debt
	<u>Principal</u>	<u>Interest</u>	<u>Total</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>	<u>Total</u>
2011	\$ 9,875,000.00	\$15,467,722.50	\$25,342,722.50	\$ 0.00	\$1,060,121.15	\$1,060,121.15	\$26,402,843.65
2012	10,375,000.00	14,973,521.25	25,348,521.25	910,000.00	1,799,637.50	2,709,637.50	28,058,158.75
2013	10,900,000.00	14,446,372.50	25,346,372.50	925,000.00	1,781,287.50	2,706,287.50	28,052,660.00
2014	11,455,000.00	13,889,785.00	25,344,785.00	945,000.00	1,762,587.50	2,707,587.50	28,052,372.50
2015	12,055,000.00	13,295,472.50	25,350,472.50	970,000.00	1,738,587.50	2,708,587.50	28,059,060.00
2016	12,690,000.00	12,656,619.38	25,346,619.38	1,000,000.00	1,709,037.50	2,709,037.50	28,055,656.88
2017	13,375,000.00	11,969,566.25	25,344,566.25	1,030,000.00	1,678,587.50	2,708,587.50	28,053,153.75
2018	14,105,000.00	11,236,322.50	25,341,322.50	1,065,000.00	1,641,837.50	2,706,837.50	28,048,160.00
2019	14,880,000.00	10,465,731.88	25,345,731.88	1,110,000.00	1,598,337.50	2,708,337.50	28,054,069.38
2020	15,695,000.00	9,649,394.38	25,344,394.38	1,155,000.00	1,553,037.50	2,708,037.50	28,052,431.88
2021	16,565,000.00	8,780,506.88	25,345,506.88	1,200,000.00	1,505,937.50	2,705,937.50	28,051,444.38
2022	17,480,000.00	7,859,845.00	25,339,845.00	1,240,000.00	1,466,437.50	2,706,437.50	28,046,282.50
2023	18,470,000.00	6,884,995.63	25,354,995.63	1,285,000.00	1,425,237.50	2,710,237.50	28,065,233.13
2024	19,495,000.00	5,855,238.75	25,350,238.75	1,335,000.00	1,372,837.50	2,707,837.50	28,058,076.25
2025	15,930,000.00	4,892,915.63	20,822,915.63	1,390,000.00	1,318,337.50	2,708,337.50	23,531,253.13
2026	16,820,000.00	4,003,601.25	20,823,601.25	1,445,000.00	1,261,637.50	2,706,637.50	23,530,238.75
2027	9,365,000.00	3,313,862.50	12,678,862.50	1,505,000.00	1,202,637.50	2,707,637.50	15,386,500.00
2028	9,845,000.00	2,831,893.75	12,676,893.75	1,565,000.00	1,141,237.50	2,706,237.50	15,383,131.25
2029	10,355,000.00	2,326,896.88	12,681,896.88	1,630,000.00	1,077,337.50	2,707,337.50	15,389,234.38
2030	5,315,000.00	1,945,531.25	7,260,531.25	1,695,000.00	1,010,837.50	2,705,837.50	9,966,368.75
2031	5,570,000.00	1,686,912.50	7,256,912.50	1,760,000.00	946,137.50	2,706,137.50	9,963,050.00
2032	5,850,000.00	1,411,828.13	7,261,828.13	1,825,000.00	883,400.00	2,708,400.00	9,970,228.13
2033	3,875,000.00	1,179,621.88	5,054,621.88	1,900,000.00	808,712.50	2,708,712.50	7,763,334.38
2034	4,060,000.00	992,681.25	5,052,681.25	1,985,000.00	721,300.00	2,706,300.00	7,758,981.25
2035	4,255,000.00	796,787.50	5,051,787.50	2,080,000.00	629,837.50	2,709,837.50	7,761,625.00
2036	4,465,000.00	591,353.13	5,056,353.13	2,170,000.00	536,925.00	2,706,925.00	7,763,278.13
2037	3,250,000.00	408,975.00	3,658,975.00	2,265,000.00	442,681.25	2,707,681.25	6,366,656.25
2038	3,410,000.00	250,800.00	3,660,800.00	2,360,000.00	347,350.00	2,707,350.00	6,368,150.00
2039	3,575,000.00	84,906.25	3,659,906.25	2,455,000.00	251,050.00	2,706,050.00	6,365,956.25
2040				2,555,000.00	150,850.00	2,705,850.00	2,705,850.00
2041				2,660,000.00	49,875.00	2,709,875.00	2,709,875.00
	<u>\$303,355,000.00</u>	<u>\$184,149,661.25</u>	<u>\$487,504,661.25</u>	<u>\$47,415,000.00</u>	<u>\$34,873,652.40</u>	<u>\$82,288,652.40</u>	<u>\$569,793,313.70</u>

Source: Department of Finance.

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## DEPARTMENT OF UTILITIES

### Organizational Structure

The Department of Utilities (the "Department") operates and maintains the City's water and wastewater systems and oversees the Water and Wastewater Enterprise Funds. The Department currently employs approximately 290 employees who are grouped into seven divisions. A brief description of each division, follows:

<b>Director's Office</b>	Responsible for overall administration of the Department, including public information, human resources and grants management.
<b>Water Production</b>	Responsible for operation and maintenance of water treatment plants and finished water storage facilities. Maintains raw and finished water pump stations and raw water transmission mains. Reviews any encroachments or activities on the reservoirs.
<b>Water Quality</b>	Responsible for assuring that System water continues to meet state and federal regulations through laboratory analysis and reporting to regulatory agencies. Manages raw water resources.
<b>Water Distribution</b>	Responsible for the maintenance of over 800 miles of water mains. Also responsible for repair, replacement and installation of fire hydrants and valves and the detection of leaks in the distribution system. Provides routine flushing of water mains and the installation of service main extensions.
<b>Engineering</b>	Responsible for engineering design, construction oversight, contract management and capital improvement program development. Also responsible for underground utility identification under the Miss Utility program, and other engineering functions.
<b>Accounting and Budget</b>	Responsible for financial oversight, budgeting and expenditure tracking for all phases of the utility operations. Coordinates with the City's Finance Department to maintain consistency in financial reporting and recordkeeping.
<b>Water Accounts</b>	Responsible for handling customer service inquiries concerning billing and establishment and disconnection of services. Coordinates the reading of meters. Also responsible for billing and collection activities in conjunction with joint billing arrangement with Hampton Roads Sanitation District ("HRSD").

A summary of the Department's management team and their experience is as follows:

#### **Kristen M. Lentz, P.E., Director of Utilities**

Kristen M. Lentz, P.E., was appointed Acting Director of Utilities in 2001 and Director of Utilities in 2002. Ms. Lentz is a registered professional engineer and has approximately 28 years of professional experience. Prior to her appointment, Ms. Lentz held the positions of Assistant Director of Public Works for the City of Norfolk for nine years and has served as City Engineer and Director of Engineering and Utilities for the City of Poquoson, Virginia. She holds a Bachelor of Science degree in Civil Engineering from Old Dominion University, Norfolk, Virginia. She also serves on the Old Dominion University Civil and Environmental Engineering Visiting Council.

#### **Eric G. Tucker, Assistant Director of Utilities**

Eric G. Tucker, began serving as the Assistant Director of Utilities in August 2008. Prior to his promotion, he served as the Utility Operations Manager for the Department for six years. Mr. Tucker has over 25 years of professional experience and has held technical management positions with PEMCCO, Incorporated, and ThyssenKrupp Elevator, as well as engineering positions with URS Corporation, Camp Dresser and McKee, Inc. and CDI Marine Company. Mr. Tucker holds a Bachelor of Science degree in Industrial Technology from Virginia

State University, Petersburg, Virginia and a Masters of Business Administration degree from Averett University, Danville, Virginia. He also holds certifications in Work Zone Traffic Control, FEMA Hurricane Recovery and Mitigation and the National Incident Management System.

**Robert A. Carteris, Manager of Budget and Accounting**

Robert A. Carteris, the Department's Manager of Budget and Accounting, has worked for the Department since March 2007. Prior to his appointment as Manager of Budget and Accounting, Mr. Carteris had been a senior financial officer for various European-based multinational companies engaged in manufacturing, international trade, shipping and logistics. He has over 30 years of professional experience in accounting, finance, treasury and administration. He holds a Bachelor of Science degree in Accounting from Manhattan College, New York, New York and a Master of Business Administration and Policy from Baruch College, New York, New York.

**Charles L. Dunbar, Operations Manager**

Charles L. Dunbar was appointed the Department's Operations Manager in August 2009. Mr. Dunbar has 13 years of professional experience and held management and supervisory positions with United States Steel Corporation, Corn Products International, Perdue Farms and Norfolk State University. Mr. Dunbar holds a Bachelor of Science degree in Engineering Technology from Virginia State University, Petersburg, Virginia, a Masters degree in Engineering Management from Point Park College, Pittsburgh, Pennsylvania and a Master of Business Administration degree from Strayer University, Washington, D.C.

**Chris E. Harbin, Water Production Manager**

Chris E. Harbin has served as the Department's Water Production Manager since February 2010. Mr. Harbin came to the Department with over 27 years experience in water treatment plant management and operations. His experience includes positions from Waterworks Treatment Plant Operator to Water Treatment Plant Manager. He holds a Bachelor of Science degree in Biology from Christopher Newport University, Newport News, Virginia. Mr. Harbin currently serves on the Virginia Section American Waterworks Association Plant Operations Committee.

**Trinette D. Hodges, Water Accounts Manager**

Trinette D. Hodges has served as the Department's Customer Service Manager since February 2008. Her responsibilities include overseeing the Department's call center, collection and billing divisions. Ms. Hodges has over 18 years of professional experience and is a member of multiple professional organizations. Prior to joining the Department, she held various management positions in both customer service and quality in the private sector. Ms. Hodges holds a Bachelor of Arts degree in Rhetoric and Communications from the University of Virginia, in Charlottesville, Virginia.

**Harry C. Kenyon, A.P.R., Management Services Administrator**

Harry C. Kenyon, A.P.R., has served as the Department's Management Services Administrator since October 2008. He has 33 years of public relations experience in federal, state and municipal agencies. Before joining the Department, he was the Public Relations Manager for the Hampton Roads District of the Virginia Department of Transportation and with the City of Chesapeake, Virginia as the Public Works Information Specialist. He also served 22 years in the Navy as a Chief Journalist and Public Affairs Officer and was assigned as the staff journalist for the Chief of Naval Operations in the Pentagon. He retired from active service in June 1999. He is a graduate of City University, Bellevue, Washington, and the Defense Information School, Fort Benjamin Harrison, Indiana. In 2002, he received his Accreditation in Public Relations from the Universal Accreditation Board of the Public Relations Society of America.

### **Vernon R. Land, Water Quality Manager**

Vernon R. Land has served as the Department's Water Quality Manager since 1991. Mr. Land previously served as a Bacteriologist and Water Chemist II, and has been with the Department since 1981. He holds a Bachelor of Science degree in Biology from Old Dominion University, Norfolk, Virginia. Mr. Land has served on the Virginia American Water Works Association Water Quality Committee and has completed training in bacteriological laboratory analysis and water plant operations.

### **Kenneth R. Turner, P.E., Engineering Manager**

Kenneth R. Turner, P.E., has served as the Department's Engineering Manager since November 2005. Mr. Turner is a registered professional engineer and has been licensed with the Commonwealth for 22 years. He holds a Bachelors degree in Civil Engineering from Old Dominion University, Norfolk, Virginia. His responsibilities with the Department include overseeing the City's Capital Improvement Plan (the "CIP") and administering the annual budget which includes replacement of water and sewer pipes throughout the City's water and sewer system, rehabilitation of the 37<sup>th</sup> Street Water Treatment Plant (the "37<sup>th</sup> Street WTP") and significant dam safety improvement projects on the western reservoir system. Prior to working for the City, he served as Regional Manager of Construction Service and as Civil Engineering Manager with the consulting firm of Michael Baker, Jr. Inc.

The City operates under the City Council-Manager form of government. Policymaking and legislative authorities are vested in the governing City Council, which consists of a mayor and seven-member council. Members of the City Council serve four-year staggered terms. The City Council appoints the City Manager. The City Council is the only body with authority to set water rates and fees charged by the City.

The principal members of the City's management team and their experience are described in Appendix D to this Official Statement.

### **Management Initiatives**

Developments since the City last issued Water Revenue Bonds in 2008 include:

- Completed a major rehabilitation of the Lake Burnt Mills Dam at a cost of approximately \$10 million. The project replaced portions of the dam which were 60 years old to enhance its capacity and meet new Federal Dam Safety Regulations. The Lake Burnt Mills Dam project received the National Dam Rehab Project of the Year Award from the Association of State Dam Safety Officials.
- Norfolk Utilities was one of 11 public municipal waterworks nationally awarded the Association of Metropolitan Water Agencies ("AMWA") Platinum Award for Utility Excellence in 2008.
- Division of Engineering continued with its aggressive CIP program to replace aging infrastructure in the City. During Fiscal Year 2009, approximately 55,700 feet of new water mains were installed and 49 fire hydrants were added city-wide, enhancing fire safety.
- HRSD presented the Moores Bridges Water Treatment Plant (the "Moores Bridges WTP") and the 37th Street WTP with the 2008 Silver Pretreatment Excellence and Pollution Prevention Award for near perfect compliance with their environmental permits and for extraordinary pollution prevention measures.
- Completed first full year of recycling Moores Bridges WTP's residual solids through beneficial agricultural reuse of the material which saves landfill space and reduces the operations cost for the City. The savings for calendar year 2009 was \$115,000. The Department was also recognized by HRSD as a Pollution Prevention Partner for this project through their P2 award program.
- To offset energy cost increases, the Department recently enrolled in a voluntary demand response program; whereby the Department can curtail electricity use by switching to diesel generators at voluntary time periods when electricity prices reach or exceed certain levels. If the Department meets certain levels of curtailment, it will receive an offset of nearly \$330,000. In its first evaluation on June 9, 2010, the Department received 100% compliance with the program's load reduction test when the Moores Bridges WTP, and the 37<sup>th</sup> Street WTP and the Western Branch Pump Station switched to emergency generators for an hour.

- All of the Moores Bridges WTP's hypochlorite and ammonia pumps, piping and controls were replaced, greatly improving the Water System's performance and reliability and reducing operating costs. The hypochlorite equipment change-out was done by Department staff without the use of external contractors or engineers, saving approximately \$40,000.
- Two new lime slakers were installed at the Moores Bridges WTP to convert pebble lime to hydrated lime that is used to reliably control the pH balance of raw and finished water. Lime slaking increases the efficiency of chemical use, reduces waste byproducts and helps limit lime deposits that can block water lines and equipment at the treatment plants.
- Completed the conversion to the new Supervisory Control And Data Acquisition system at the Moores Bridges WTP, increasing the Department's expandability, reliability and flexibility with plant monitoring and controls.

Future initiatives of the Department include:

- Continue to implement long-term infrastructure renewal plan. The plan will address the condition of dams to meet federal and state dam safety regulations, the upgrade of aging sections of raw and finished water piping and the upgrade of components of the 37<sup>th</sup> Street WTP.
- Continue to market surplus water.
- Preserve the City's groundwater withdrawal rights through its permit renewal process.

## **THE SYSTEM**

### **History and Overview**

The City developed a surface water supply network starting with the use of a spring near Main Street in the late 1600s, through the development of an in-town lake system in the late 1800s, to the development of Lake Prince and Lake Burnt Mills in the City of Suffolk, Virginia ("Suffolk") and the County of Isle of Wight, Virginia ("Isle of Wight") in 1918 and the Western Branch Reservoir in Suffolk in 1962. In the 1940s through the 1960s the System expanded, and the Blackwater and Nottoway River intakes in the County of Southampton, Virginia ("Southampton") were added. The existing surface water supply is sufficient to meet the 50-year projected water needs of Norfolk's residents and businesses and all current contract and non-contract wholesale requirements.

In order to process water, two treatment plants have been constructed and maintained. The Moores Bridges WTP, constructed in the late 1890s, currently treats all public water consumed in the City of Virginia Beach, Virginia ("Virginia Beach") and treats and supplies portions of the water consumed in the City. The 37<sup>th</sup> Street WTP, originally put into service in the 1920s, supplies water to the remainder of the City. Both treatment plants serve the Navy and the Moores Bridges WTP serves a portion of the City of Chesapeake, Virginia ("Chesapeake").

Over time, the System has developed and expanded into the major regional provider of water for South Hampton Roads, currently serving an area encompassing a population of approximately 820,000, or approximately 10% of the population of the Commonwealth.

The first transmission line to Virginia Beach was installed in 1924, and the City has provided water to its neighbor ever since through long-term water supply contracts. A water services contract provides for the System's wheeling and treating of Virginia Beach raw water, either from Lake Gaston or Stumpy Lake, through Fiscal Year 2030. The Navy and Chesapeake are long-standing wholesale water customers. Although the City currently has no separate water supply contract with Chesapeake, the City sells water to Chesapeake at a rate of \$4.77 per 1,000 gallons which increases by 3.5% in subsequent Fiscal Years. Starting on July 1, 2006, the City also began selling raw water to Chesapeake. See "THE SYSTEM-Wholesale Contracts" and Appendix E for further discussion of relationships with the City of Portsmouth, Virginia ("Portsmouth"), Chesapeake, Virginia Beach, the WTW and the Navy.

For additional information with respect to the System, see the Feasibility Study which appears as Appendix A to this Official Statement.

## **Water Supply**

The System receives water from a series of eight City-owned water supply reservoirs which are located as follows: three in Suffolk and Isle of Wight (which collectively are known as the "Western Reservoir System"), three in Virginia Beach, and two in Norfolk (which collectively are known as the "In-Town Reservoirs"). The System's current raw water storage capacity is 15.2 billion gallons. These reservoirs are supplemented by two river intakes at the Blackwater and Nottoway Rivers and four ground water wells owned by the City that are available in times of shortages.

As more fully discussed in the section entitled "THE SYSTEM-Wholesale Contracts" and in Appendix E, "SUMMARY OF WHOLESALE CONTRACTS," the City and Virginia Beach entered into the Water Services Contract (as herein defined), to provide for the treatment and delivery of finished raw water supplied by the City to Virginia Beach, whether from Lake Gaston or Stumpy Lake, up to the contract maximum limit of 45.0 mgd, or 46.8 mgd upon request from Virginia Beach and approval from Norfolk. Under the utility basis of cost recovery for this Contract, Virginia Beach is paying the City its proportionate share of annual operation and maintenance expense, depreciation, and return on specific System facilities used by the City to provide service to Virginia Beach. Such facilities include several expansion and improvement projects to increase the System's capacity to receive Lake Gaston water for treatment at the Moores Bridges WTP; improvements to master water meters; construction of a raw water pumping station, a raw water booster pumping station and a second high service pumping station at the Moores Bridges WTP; construction of raw water and treated water transmission mains; and hydraulic improvements at the Moores Bridges WTP, including improvements to flash mixers, sedimentation basin, filters, plant laboratory, maintenance facilities and administrative offices.

On April 28, 1995, the City commenced the System improvements necessary to treat the Lake Gaston water after the City was requested to do so by Virginia Beach. Under the terms of the Water Services Contract, Virginia Beach is obligated to pay the City for all costs so incurred irrespective of Virginia Beach's ability to continue to provide Lake Gaston water.

*Regional Water Requirements.* The Moores Bridges WTP was expanded to provide for the treatment of up to 45 mgd of raw water that Virginia Beach receives from the Lake Gaston Reservoir. Norfolk is treating this water under a water services contract that went into effect in Fiscal Year 1998. This released 32 mgd of raw water from the Norfolk System that was being sold to Virginia Beach under the then existing water supply contract. The sale of 7 mgd of raw water under the City's wholesale raw water contract with Chesapeake began July 1, 2006. On September 29, 2009, the City entered into a 40-year raw water sales agreement with WTTWA, currently comprised of Suffolk and Isle of Wight, to furnish a minimum of 3 mgd and gradually increasing to 15 mgd by 2038. Norfolk believes that continued growth in the South Hampton Roads area, including Virginia Beach, will generate a demand for this water.

## **Water Treatment Facilities**

The City owns and, through the Department, operates two major water treatment plants, the Moores Bridges WTP and the 37<sup>th</sup> Street WTP. The Moores Bridges WTP, with a rated capacity of 108 mgd (maximum day), provides finished water primarily to the eastern two-thirds of the City and Virginia Beach. The 37<sup>th</sup> Street WTP, with a rated capacity of 28 mgd (maximum day), provides finished water primarily to the western one-third of the City. Flow from both treatment plants serves the Navy facilities and the Moores Bridges WTP serves the urban Northeastern section of Chesapeake. The City also provides raw water to a U.S. military facility in Portsmouth.

## **Water Distribution and Storage Facilities**

The System's distribution facilities within Norfolk include two ground level storage tanks with pumping stations, two elevated water storage tanks, approximately 17,338 water valves and approximately 4,546 hydrants. Treated water is distributed throughout the City, to the city limits of Virginia Beach and Chesapeake, and to the gates of the Naval facilities by more than 800 miles of water mains. For Fiscal Year 2010, peak day water production was 79.0 mgd and average day production was approximately 62.9 mgd. Average day production includes approximately 3.5 mgd of unaccounted for water, such as losses, water used for fire protection, and the flushing of water mains. According to the American Water Works Association ("AWWA"), the optimum

unaccounted for water level for efficient distribution systems should be less than 10% of volume of water produced. Nationwide, AWWA reports that water utilities average about 15% unaccounted-for-water. For Fiscal Year 2010, the System's unaccounted for water level was approximately 5.6% which is within AWWA's acceptable levels.

### Customer Base

As of June 30, 2010, the System had approximately 66,140 active accounts, a modest increase over the last five years. Prior to Fiscal Year 1998, Virginia Beach's water use was restrained from growth by the City due to concerns about exceeding the safe yield of the System's sources. Since Virginia Beach has completed the Lake Gaston Project, purchased Stumpy Lake and lifted its water consumption restrictions, Virginia Beach's water usage has increased. The average annual daily amount of finished water pumped for Fiscal Year 2010 was 62.1 mgd, including approximately 3.8 mgd of unaccounted for water.

**Table 1**  
**Average Metered Consumption**  
**Fiscal Year 2010**

	<b>Metered Consumption (mgd)</b>	<b>Percent of Total</b>
Norfolk	17.6	30.2%
Virginia Beach	33.4	57.3
Navy	4.1	7.0
Chesapeake	<u>3.2</u>	<u>5.5</u>
Total	58.3	100.0

Source: Department of Utilities.

Table 2 provides data on the System's 10 largest retail customers for Fiscal Year 2010.

**Table 2**  
**Ten Largest Retail Customers**  
**Fiscal Year 2010**

<b><u>Customer</u></b>	<b><u>Annual Water Consumption (1,000 gallons)</u></b>	<b><u>Annual Water Consumption as % of Total Consumption</u></b>
Norfolk Redevelopment and Housing Authority	344,000	1.42%
Sentara Health System	101,000	0.42
Norshipco	97,000	0.40
Old Dominion University	94,000	0.39
Virginia International Terminal	88,000	0.36
Norfolk State University	62,000	0.26
S. L. Nusbaum	56,000	0.23
Bon Secours Hospital	38,000	0.16
Metro Machine Corporation	36,000	0.15
Norfolk Southern Railroad	<u>32,000</u>	<u>0.13</u>
Total	948,000	3.92%

Source: Department of Utilities.

The 10 largest retail customers together represent less than 4% of total water consumption, and no single retail customer represents more than 2% of total consumption.



## Wholesale Contracts

The City maintains wholesale contracts or water service agreements with Chesapeake, Virginia Beach, Portsmouth, the Navy and the WTW. These contracts and agreements set forth the amount of water to be sold, rate setting procedures, metering points, dispute resolution and other matters.

The descriptions of the contracts and agreements set forth below are brief outlines or summaries of certain provisions. For a more detailed description of the contracts and agreements see Appendix E, "SUMMARY OF WHOLESALE CONTRACTS." The outlines and summaries set forth above and in Appendix E hereto do not purport to be complete, and reference should be made to each respective contract or agreement. Copies of the contracts and agreements may be obtained from the City for a full and complete statement of their provisions.

*City of Virginia Beach.* On July 14, 1993, the City entered into a water sales contract (the "Water Sales Contract") and a water services contract (the "Original Water Services Contract") with Virginia Beach. The Water Sales Contract served as an interim arrangement for the sale of surplus System water to Virginia Beach pending completion of the Lake Gaston Project. Beginning on January 1998, the Original Water Services Contract provided for the City's treatment and delivery of potable Lake Gaston water to Virginia Beach now that the Lake Gaston Project is completed. In 2001, the Original Water Services Contract was amended and restated (as amended and restated, the "Water Services Contract"). As of June 2004, the Water Services Contract covers the use of Virginia Beach's Stumpy Lake raw water source in conjunction with Lake Gaston water.

The Water Services Contract is a long-term contract (effective through June 30, 2030) which requires the City to receive, convey, treat and deliver to Virginia Beach up to an average of 45 mgd, or 46.8 mgd upon Virginia Beach's request and Norfolk's approval, of finished water to be provided from Virginia Beach's two raw water sources. The Water Services Contract establishes engineering, water quality and operational standards for the City to meet as it provides service to Virginia Beach. Accordingly, certain components of the System, including raw water storage, raw water pumping stations and transmission lines, water treatment plants and treated water storage, and finished water pumping and transmission facilities, will be utilized to provide treated water to Virginia Beach. The Water Services Contract also provides that Virginia Beach will pay its proportionate share of the capital costs of the System irrespective of Virginia Beach's ability to provide raw water.

Certain components of the payments required by the Water Services Contract are not related to actual water usage. All payments by Virginia Beach under the Water Services Contract are secured solely by revenues received by Virginia Beach from charges paid by users of its water and sewer system. The Water Services Contract requires that such payments be designated by Virginia Beach as operating expenses of its water and sewer system and, as such, are payable ahead of debt service on future general obligation bonds and revenue bonds paid from Virginia Beach water and sewer system revenues. The Water Services Contract may be terminated by the City or by Virginia Beach upon the occurrence of various events (see "SUMMARY OF WHOLESALE CONTRACTS – Virginia Beach, Virginia" appearing as Appendix E to this Official Statement).

*City of Chesapeake.* The City sells Chesapeake wholesale finished water at various delivery points for service to the northeastern section of Chesapeake. Sales in Fiscal Year 2010 averaged 3.29 mgd which represents approximately 4.9% of the System's total metered water consumption. Rates are set by ordinance of the City Council.

In December, 2002, the City entered into a raw water sales contract with Chesapeake for the sale of the City's surplus raw water to Chesapeake. The contract start-up date was July 1, 2006, and the term is through December 31, 2042. The contract specifies the terms and conditions of the sale, rates, termination provisions and dispute resolution. This is a take or pay contract for 7 mgd. Raw water sales averaged 7.00 mgd in Fiscal Year 2010. In the contract, the City agrees to sell and deliver to Chesapeake and Chesapeake agrees to accept a targeted amount of raw water transmitted to the extent possible at a uniform flow rate.

The current water rate is \$1.15 per thousand gallons of surplus raw water sold. Each July 1, the then existing water rate shall be adjusted based on the change in the Consumer Price Index, but in no instance shall the water rate decrease. Chesapeake began making monthly payments for the metered amount of surplus raw water delivered on August 1, 2006.

*City of Portsmouth.* In 2002, the City entered into a contract with Portsmouth for the sale of emergency raw water. Portsmouth has constructed the necessary improvements to convey the raw water to its treatment facility. According to the contract, the City shall endeavor to deliver and sell to Portsmouth up to 10 mgd of temporary surplus raw water. The rate of the temporary surplus raw water sold pursuant to the contract shall total \$1.15 per thousand gallons. During the period July 2007 through June 2008, the City sold Portsmouth approximately 3.36 mgd of raw water.

*United States Navy.* The City has a long-standing relationship of providing water to the Navy on a wholesale basis. The contract was modified effective July 1, 2003, to establish treated water rates applicable to the Navy facilities in Norfolk and Virginia Beach. Sales to the Navy averaged 4.21 mgd in Fiscal Year 2010, which represents approximately 6.3% of total metered water consumption for the System.

*Western Tidewater Water Authority.* In Fiscal Year 2009, the City entered into a "take or pay" agreement with WTWA, with a required minimum volume purchase. The agreement is set to expire in September 2048. Delivery of water is anticipated to begin in 2014.

## **The Service Area**

The System's current service area covers approximately 334 square miles and includes the City, Virginia Beach and the urban northeastern section of Chesapeake, as well as Naval installations in the City, Virginia Beach and Portsmouth. This service area is part of what is commonly known as South Hampton Roads. These jurisdictions vary greatly in population and character. Virginia Beach and the City have the first and second largest populations of any cities in the Commonwealth, respectively. Chesapeake, currently the third largest city in the Commonwealth, is experiencing rapid population growth, and has significant land available for residential and commercial development. Ranked by geographical size, Chesapeake is the second largest city in the Commonwealth and Virginia Beach is third. The City is the most densely populated of the three communities and has extensive waterfront development and the region's central business district.

Virginia Beach and Chesapeake have grown to a degree that they are no longer only suburban, though both still serve as residential communities for many working in the City. Virginia Beach has the highest income and property values in the region and also is a resort city with over 12,000 hotel rooms and a significant tourist industry along its beachfront. Both cities promote industrial growth and each has extensive agriculture activity in its southern area.

Table 3 summarizes population trends from 1980 through 2009.

**Table 3**  
**Population**  
**1980 - 2009**

<u>Area</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2009</u>
Norfolk	266,979	261,250	234,463	237,764
Virginia Beach	262,199	393,689	425,257	434,412
Chesapeake	114,486	151,982	199,184	219,960
Hampton Roads MSA	1,160,311	1,430,974	1,533,739	1,644,005
Virginia	5,346,279	6,189,197	7,078,515	7,882,590
United States	226,504,825	249,632,692	281,421,906	307,006,550

Sources: U.S. Department of Commerce, Bureau of the Census and the Weldon Cooper Center for Public Services, University of Virginia.

Table 4 provides per capita income comparisons from 2004 through 2008.

**Table 4**  
**City of Norfolk, Virginia**  
**Per Capita Personal Income Comparisons**  
**2004 - 2008**

<u>Year</u>	<u>City</u>	<u>Hampton Roads MSA</u>	<u>State</u>	<u>U.S.</u>
2004	\$29,154	\$32,464	\$36,842	\$33,881
2005	31,159	34,107	38,892	35,424
2006	33,239	36,319	41,267	37,698
2007	34,873	38,135	43,158	39,392
2008	36,065	39,300	44,075	40,166

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, April 2010.

The City has the largest concentration of naval installations in the world. These installations include (i) the Norfolk Naval Base which is the home port for over 100 ships and is one of only two Navy ports on the east coast that can accommodate aircraft carriers; (ii) the Supreme Allied Atlantic Command of the North American Treaty Organization ("NATO"), which is the only NATO facility in the United States; (iii) the headquarters of the Navy's Atlantic Fleet; (iv) the Norfolk Air Station; and (v) several other major Navy commands. The Norfolk Naval Base, located in the City along the Chesapeake Bay, has been a major military installation since World War I. Hampton Roads is the largest center of Coast Guard units in the world with the Atlantic Area Command and Maritime Defense Zone Atlantic in Portsmouth and its Maintenance & Logistic Command Atlantic headquarters in downtown Norfolk.

On August 9, 2010, Defense Secretary Robert Gates announced a series of steps aimed at reducing overhead in the defense budget and redirecting the money saved to the war effort and preparation for future conflicts. Among his directives was the closure of the Joint Forces Command (JFCOM) which employs approximately 5,000 people, both service members and civilians, headquartered in Norfolk with its major facility in Suffolk. The City is working with other cities in the region, Governor McDonnell's Office and the Hampton Roads Congressional delegations to have this proposal reconsidered. Several Congressional leaders, including Chairman of the House Armed Services Committee, Missouri Representative Ike Skelton, have said that a full committee hearing will occur on Defense Secretary Robert Gates' recommended defense cuts, including JFCOM, when Congress returns in mid-September 2010. Preliminary analysis by Old Dominion University economist James Koch, has shown the overall contribution of JFCOM to the Hampton Roads region amounts to an estimated 10,000 jobs and \$1 billion of the area's \$80 billion economic activity each year.

Regardless of the future status of the JFCOM, the military, particularly the Navy, remains a mainstay of the increasingly diversified southeastern Virginia economy. The Navy's direct economic impact on the region was \$14.6 billion in 2008, comprised of a total annual payroll of \$7.5 billion and the balance consumed on goods and services and procurement contracts. The City expects to continue as a center of activity for the Navy with current total personnel (military and civilian) in excess of 72,500. There were 84,267 active-duty Navy military personnel in Hampton Roads in 2008, of which 66% were assigned to Norfolk.

The Navy's newest local command, the Navy Reserve Forces Command (the "Reserve Command"), relocated to Norfolk from New Orleans in 2009. The Reserve Command is the global headquarters for more than 68,000 reserve sailors and brought approximately 450 military and civilian employees to Hampton Roads. The Reserve Command is responsible for readiness, oversight, manpower management, logistics, mobilization and training of reserve sailors.

This federal presence in the economy tends to smooth out fluctuations in the business cycle and to reduce the severity of recessions. Unemployment in the Hampton Roads area has historically been below the national average, especially during economic downturns. Although the military remains a key component of Hampton Roads' economy, the City has successfully diversified its economic base in recent years.

Annual employment figures and unemployment rates are shown in Table 5 and Table 6, respectively.

**Table 5**  
**Employment**  
**2005 - 2009**

<u>Year</u>	<u>Norfolk</u>	<u>Virginia Beach</u>	<u>Chesapeake</u>
2005	92,182	214,858	108,780
2006	92,416	216,971	111,455
2007	96,370	218,472	111,722
2008	95,485	217,543	112,033
2009	93,314	212,597	109,486

Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics, Virginia Employment Commission.

**Table 6**  
**Unemployment Rates**  
**2005 - 2009**

<u>Year</u>	<u>Norfolk</u>	<u>Virginia Beach</u>	<u>Chesapeake</u>	<u>Hampton Roads MSA</u>	<u>Virginia</u>	<u>U.S.</u>
2005	5.0%	3.3%	3.5%	3.9%	3.5%	5.1%
2006	4.2	2.9	3.2	3.3	3.0	4.6
2007	4.0	2.7	3.0	3.2	3.0	4.6
2008	5.2	3.6	3.8	4.2	3.9	5.8
2009	8.4	5.9	6.3	6.8	6.7	9.3

Source: U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics, Virginia Employment Commission.

Manufacturing activities in the region include shipbuilding and repair, food processing, paper milling and assorted light assembly operations. The region's harbor is host to a variety of firms which engage in import and export activities. Appalachian coal is the principal export product although significant amounts of grain and general cargo also are exported. The volume of imports is considerably less than exports and is primarily general cargo. Tourism, along with a growing convention business, is an additional source of regional income. General farming is the area's primary agricultural activity.

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The annual volume of retail sales for the City, Virginia Beach and Chesapeake for 2005 to 2009 is shown in Table 7.

**Table 7**  
**Retail Sales**  
**(Millions of Dollars)**

<u>Area</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Norfolk	\$2,452.7	\$2,780.4	\$2,888.4	\$2,808.3	\$2,597.8
Virginia Beach	4,183.9	4,726.6	4,937.9	4,841.0	4,638.9
Chesapeake	2,723.6	3,177.7	3,235.2	3,048.1	2,897.4

Source: Virginia Department of Taxation.

### **CAPITAL IMPROVEMENT PROGRAM**

In Fiscal Year 2004, the City embarked on a ten-year, \$170 million water system rehabilitation and replacement program to upgrade certain aging infrastructure components of the Water System. The City Council approved Ordinance Number 41,047 on May 20, 2003, which provided a series of three \$0.33 per 1,000 gallon rate increases for Fiscal Years 2004 through 2006, and annual increases of 3.50% each July 1 thereafter, until amended. This series of gradual and predictable finished water retail rate adjustments position the System to support this program.

The City annually prepares a five-year CIP for the System incorporating all known capital costs over that period. Future year projects in the CIP are considered for planning purposes only until funds are provided and may be modified, at any time, by the City Council. The anticipated CIP for Fiscal Years 2011 through 2015 includes projects which are estimated to cost \$125.425 million. These projects are classified in the following categories: (i) facility renovations and upgrades; (ii) retail water distribution system improvements; and (iii) regulatory driven projects. The anticipated timing of project costs associated with the current CIP is shown in Table 8.

**Table 8**  
**Capital Improvement Plan**  
**(Fiscal Year Ending June 30)**

	Approved		Planned			Total
	2011	2012	2013	2014	2015	
Design & Construct 37 <sup>th</sup> Street Plant	\$22,500,000	\$ -	\$ -	\$ -	\$ -	\$22,500,000
Implement Security/Vulnerability	-	300,000	-	-	-	300,000
Rehabilitate Blackwater River Pump Station	4,500,000	-	-	-	-	4,500,000
Remove Trees on Lake Smith Dam	150,000	-	-	-	-	150,000
Replace Lab Equipment - Moores Bridges Water Treatment Plant	150,000	-	-	-	-	150,000
Replace Water Meters	-	100,000	-	-	-	100,000
Replace or Rehabilitate Water Pipelines	18,200,000	18,200,000	18,200,000	18,200,000	18,200,000	91,000,000
System-Wide Reservoir Rehabilitation	-	-	150,000	-	-	150,000
Tree Removal on the Lake Taylor Dam	-	-	75,000	-	-	75,000
Upgrade Deep Wells	1,000,000	-	-	-	-	1,000,000
Upgrade Moores Bridges Water Treatment Plant	-	5,500,000	-	-	-	5,500,000
Subtotal Water Utility	\$46,500,000	\$24,100,000	\$18,425,000	\$18,200,000	\$18,200,000	\$125,425,000

Source: City of Norfolk, Virginia, Fiscal Years 2011 through 2015 Approved Capital Improvement Plan.

The major near-term projects consist of upgrades to the raw water reservoir dams and spillways, raw water transmission pipelines, distribution system piping, phased rehabilitation of the 37<sup>th</sup> Street WTP, and upgrades at the Moores Bridges WTP. These improvements will be followed by subsequent rehabilitation of the raw water pumping stations at the river intakes, and repair and continued replacement of critical portions of the raw water transmission mains and of the distribution system. Improvements to the lake aeration system at the City's Western Branch reservoir is complete and similar improvements at the Lake Prince reservoir will be completed in the near future. These improvements will allow the City to provide continuous operation of the System and meet regulatory requirements.

Operation of the System requires compliance with environmental laws and regulations. For a more detailed representation of regulatory driven capital improvements, see the Feasibility Study included as Appendix A to this Official Statement. The Feasibility Study, however, does not purport to be a complete, comprehensive or definitive summary of all currently required or proposed water quality laws and regulations. Future legislative and regulatory proposals applicable to the System could result in increased capital or operating costs beyond those currently projected by the City.

Proceeds from the 2010 Bonds, along with other funds on hand, are expected to pay the cash flow requirements of CIP and current construction-work-in-progress project costs to be incurred through Fiscal Year 2012. The City expects to issue Additional Bonds under the Indenture in Fiscal Years 2013 and 2015 to finance portions of the remaining cash flow of project costs in the CIP and construction-work-in-progress to be incurred through Fiscal Year 2016.

The estimated project costs indicated above are based upon the City's assumptions of future events and existing practices which are subject to revision as actual water utility operating results, regulatory requirements and City policy changes dictate. For a detailed description of the CIP, see the Feasibility Study included as Appendix A to this Official Statement.

## **FINANCIAL MANAGEMENT**

### **Overview**

On July 1, 1979, the City Council established the Water Utility Fund (the "Fund") as a distinct enterprise fund of the City to account for all of the financial activity related to providing water services to its customers. The Fund is operated on a self-supporting basis.

Since its inception, regular transfers have been made from the Fund to the City's general fund for payments in lieu of taxes and as a return on the City's investment in the System. Additionally, transfers have been made to pay all debt service on general obligation bonds issued by the City to pay for System improvements. The City currently intends to pay for all future System capital costs from revenues and proceeds of Bonds. The Fund is reported on an accrual basis of accounting. Included in Appendix B to this Official Statement are the audited financial statements for the Fund for the Fiscal Years 2008 and 2009.

### **Rate Regulation**

The power of the City to fix, charge and collect rates, fees and other charges for the use of and for the services furnished by the System is not subject to the regulatory jurisdiction of the State Corporation Commission of Virginia or any other federal, regional, state or local regulatory body. Subject to existing contractual commitments, the City has sole and exclusive authority over such rates, fees and other charges.

### **Water Rates**

Retail rate recommendations are developed prior to the City's budgetary process. Retail rates are set by City Council. Virginia Beach formula driven biennial wholesale rate revisions are not submitted for City Council approval. The Department uses a retail rate structure comprised of a uniform rate per thousand gallons, with no

quantity discount or lifeline rate, and a uniform service charge per bill. A historical summary of the City's water and wastewater rates is shown in Table 9.

**Table 9**  
**Summary of Historical Water and Wastewater Rates**

<b>Fiscal Year</b>	<b>Rates Per 100 Cubic Feet</b>			
	<b><u>Water</u></b>	<b><u>% Change</u></b>	<b><u>Wastewater</u></b>	<b><u>% Change</u></b>
2002	2.51	0.0%	1.53	10.0%
2003	2.51	0.0	1.67	9.2
2004	2.76	10.0	2.17	29.9
2005	3.01	9.1	2.47	13.8
2006	3.26	8.3	2.57	4.0
2007	3.37	3.4	2.67	3.9
2008	3.49	3.6	2.78	4.1
2009	3.61	3.4	2.89	4.0
2010	3.74	3.6	3.01	4.2
2011	3.87	3.5	3.13	4.0
10-Year Average:		4.5%		8.7%

The System's retail customers' average annual cost for Fiscal Years 2006 through 2010 are shown in Table 10 for ease of comparison with wholesale customers' average annual costs during the same period shown in Tables 11, 12 and 13.

**Table 10**  
**Retail Customers' Average Annual Costs**  
**Norfolk Retail**  
**2006 - 2010**

<b><u>Fiscal Year</u></b>	<b><u>Revenue</u></b>	<b><u>Volume (Mgal*)</u></b>	<b><u>Average Cost (\$/Mgal*)</u></b>
2006	\$31,762,000	7,111,000	\$4.47
2007	31,801,528	6,886,000	4.62
2008	34,641,000	7,061,000	4.91
2009	32,847,000	6,627,400	4.96
2010	32,956,000	6,432,000	5.12

\* Mgal = 1,000 gallons

Source: Department of Utilities.

The rates from the wholesale contract with Virginia Beach are formula driven based on projected operating and capital cashflow expenditures for two years. Virginia Beach's bills reflect a four part rate structure. Two parts of the rate structure are fixed monthly charges which recover proportional share of costs for system capacity designed to serve, and used by, them. One part of the rate structure is a fixed charge related to their reservation of Norfolk's surplus water, as appropriate. One part of the rate structure is a uniform rate which recovers their proportional share of variable operation and maintenance costs based on current use. Chesapeake's single uniform

rate is based on an equivalent retail rate that recovers costs associated with the City's retail service charge and uniform rate.

**Table 11**  
**Wholesale Customers' Average Annual Costs**  
**Virginia Beach**  
**2006 - 2010**

<u>Fiscal Year</u>	<u>Revenue (\$)</u>	<u>Volume (Mgal*)</u>	<u>Average Cost (\$/Mgal*)</u>
2006	\$25,744,200	12,953,000	\$1.99
2007	25,194,400	13,089,000	1.92
2008	23,060,600	12,999,800	1.77
2009	25,256,800	12,344,100	2.05
2010	26,880,200	12,189,000	2.21

\* Mgal = 1,000 gallons

Source: Department of Utilities.

**Table 12**  
**Wholesale Customers' Average Annual Costs**  
**U.S. Navy, including Norfolk and Virginia Beach**  
**2006 - 2010**

<u>Fiscal Year</u>	<u>Revenue (\$)</u>	<u>Volume (Mgal*)</u>	<u>Average Cost (\$/Mgal*)</u>
2006	\$9,099,000	1,901,000	\$4.79
2007	8,548,000	1,724,000	4.96
2008	8,318,600	1,624,000	5.12
2009	8,112,500	1,536,000	5.29
2010	8,108,000	1,479,000	5.48

\* Mgal = 1,000 gallons

Source: Department of Utilities.

**Table 13**  
**Wholesale Customers' Average Annual Costs**  
**Chesapeake**  
**2006 - 2010**

<u>Fiscal Year</u>	<u>Revenue (\$)</u>	<u>Volume (Mgal*)</u>	<u>Average Cost (\$/Mgal*)</u>
2006	\$4,476,000	1,047,000	\$4.47
2007	3,987,000	865,000	4.61
2008	5,461,000	1,149,000	4.75
2009	5,860,000	1,182,000	4.96
2010	6,048,000	1,180,00	5.13

\* Mgal = 1,000 gallons

Source: Department of Utilities.



As shown in Table 14, the System's charges compare favorably with other providers of water in the region.

**Table 14**  
**Select Water Charges in the Region**  
**(as of July 1, 2010)**

<u>City</u>	<u>Monthly Water Charges for Median Household<sup>(1)(2)</sup></u>
Chesapeake	\$31.03
Norfolk	24.22
Newport News	22.28
Portsmouth	24.03
Virginia Beach	24.21

Notes: (1) Based on estimated average consumption of 6 CCF per month.  
(2) Excludes utility taxes levied by the City.

Source: Department of Utilities.

### **Billing, Collections and Enforcement Procedures**

The Department bills for water monthly using a billing and information system that combines account, work order, meter and customer service management. Effective May 1994, the Department implemented a joint billing program with HRSD, a political subdivision of the Commonwealth that provides wastewater treatment to the Hampton Roads region. This program has resulted in annual billing and collection efficiencies to the City and HRSD of approximately 99.5%.

Meters are read on a monthly basis. Billing data is transmitted to the Hampton Roads Utility Billing System, which is managed by HRSD, for the inclusion with HRSD's billing of wastewater, resulting in bills mailed within two days from when meters are read. The Department uses estimated billing only in extraordinary circumstances.

The Department has a collection staff that actively pursues the collection of past due bills in coordination with its efforts with the City's Law Department and HRSD. Extensive efforts are directed towards collection of delinquent accounts. Water customers are subject to having their water service discontinued if payments are delinquent by more than 45 days. Water service is restored when full payment is received or an acceptable payment plan is arranged. Delinquent bills are pursued with the use of property liens, payment arrangements and through the court system. Accounts are written off after they have been inactive for three years and collection efforts have not been successful. The Department participates in the State Debt Set-Off Program, which provides a way for the Department to have delinquent account balances, which contain the customer's social security number, withheld from the customer's Virginia State Income Tax refund or Virginia Lottery winnings. Write-offs must be approved by City Council. Historical write-offs of bad debt for Fiscal Years 2006 through 2010 are shown in Table 15.

**Table 15**  
**Water Utility Fund**  
**Bad Debt Write-off**  
**(2006 - 2010)**

<u>Fiscal Year</u>	<u>Years Written Off</u>	<u>Amount</u>	<u>Corresponding Billed Water Revenue<sup>(1)</sup></u>	<u>% of Net Charges for Services</u>
2006	2002	\$288,388	\$58,036,027	0.50%
2007	None	0	0	0.00
2008	None	0	0	0.00
2009	2003	243,498	63,785,185	0.38
2010	2004, 2005 and 2006	702,517	196,184,906	1.09

Note: (1) Corresponding Billed Water Revenue relates to revenue billed for the years in which the accounts receivable originate.

Source: Department of Utilities.

## Budget Process

The Department prepares an annual budget for the Fund in conformity with the City's requirements and procedures for the ensuing Fiscal Year. An interactive process is used during this review, involving personnel from the Department of Finance and the Office of Budget and Management.

The Fund is accounted for on a full accrual basis which recognizes and records expenses and business services when goods and services are received and revenues when earned. The budget is prepared on a cash basis and non-cash items such as depreciation are not included. The Fund is a self-supporting enterprise fund with no subsidy from the City's General Fund. All debt service on general obligation bonds issued to fund System improvements, a payment in lieu of taxes, a return on investment and indirect overhead are budgeted to be paid from the annual revenues of the Water Utility Fund. The Fund annual budgets for Fiscal Year 2010 and Fiscal Year 2011 are shown in Table 16.

**Table 16**  
**Water Utility Fund**  
**Annual Budget**  
**(Fiscal Year Ending June 30)**  
**(Cash Basis)**

<b>Revenue</b>	<b><u>2010</u></b>	<b><u>2011</u></b>
Total Water Revenue	\$74,261,985	\$75,419,185
Interest Income	2,958,486	2,426,086
Miscellaneous	<u>1,256,729</u>	<u>1,256,729</u>
Total Revenue	<u>\$78,477,200</u>	<u>\$79,102,000</u>
<b>Appropriations</b>		
Personnel Services	16,467,792	16,927,350
Materials, Supplies & Repairs	12,487,032	11,810,981
General Operations and Fixed Charges	9,778,770	10,402,282
Equipment	262,095	326,210
Debt Services & Expenses	29,329,324	30,896,560
All-Purpose Appropriations	<u>10,152,187</u>	<u>8,738,617</u>
Total Appropriations	<u>\$78,477,200</u>	<u>\$79,102,000</u>

Source: City of Norfolk, Virginia, Approved Operating Budgets, Fiscal Years 2010 and 2011.

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## Results of Operations

Statements of Revenues, Expenses and Changes in Fund Net Assets for the Fund have been compiled from the City's Comprehensive Annual Financial Report ("CAFR") for Fiscal Years 2005 through 2009 and appear in Table 17. The statements have been organized in such a manner as to facilitate year to year comparisons.

**Table 17**  
**Water Utility Fund**  
**Statement of Revenues, Expenses, and Changes in Fund Net Assets**  
**(Accrual Basis)**  
**(Fiscal Year Ending June 30)**

	<u>2005</u>	<u>2006</u> (as restated) <sup>(1)</sup>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Operating Revenues					
Charges for Services	\$61,002,286	\$74,218,336	\$69,815,932	\$74,239,988	\$74,453,906
Miscellaneous	3,419,431	3,472,406	2,941,067	2,915,980	2,666,962
Total Operating Revenues	64,421,717	77,690,742	72,756,999	77,155,968	77,120,868
Operating Expenses					
Personal Services	11,905,877	12,333,921	12,737,845	13,120,146	13,972,816
Plant Operations	4,937,669	7,631,051	5,780,847	6,625,810	6,844,241
Chemicals	2,446,167	3,227,636	3,318,311	3,446,908	4,963,652
Provision of Bad Debts	215,544	155,116	52,634	710,185	419,459
Depreciation	9,546,146	10,232,808	10,796,178	11,096,511	11,335,890
Retirement and OPEB Contribution	1,986,266	1,529,200	1,582,668	1,496,116	2,240,845
Administrative Expenses	1,411,202	1,612,230	2,064,339	1,809,616	1,710,050
Other	14,681,967	10,835,628	10,117,700	12,350,421	10,656,564
Total Operating Expenses	47,130,838	47,557,590	46,450,522	50,655,713	52,143,517
Operating Income	17,290,879	30,133,152	26,306,477	26,500,256	24,977,351
Nonoperating Revenue (expenses):					
Interest Income	565,761	1,097,416	1,704,565	1,574,056	899,684
Intergovernmental Revenues	-	-	333,350	-	-
Interest Expense and Fiscal Charges	(13,076,471)	(14,760,173)	(14,060,054)	(14,199,647)	(14,826,222)
Gain (Loss) on Sale or Disposal of Fixed Assets	(70,119)	1,126,108	(6,032)	(21,484)	(20,392)
Unrealized Gain/(Loss) on Investments	(3,930)	-	-	-	-
Total Nonoperating Revenue (Expenses)	(12,584,759)	(12,536,649)	(12,028,171)	(12,647,075)	(13,946,930)
Net Income (Loss) before Contributions and Transfers	4,706,120	17,596,503	14,278,306	13,853,180	11,030,421
Operating Transfers In	-	59,059	594,926	175,778	503,658
Transfer Out	(8,500,000)	(10,117,535)	(8,921,465)	(8,500,000)	(8,500,000)
Change in Net Assets	(3,793,880)	7,538,027	5,951,767	5,528,958	3,034,079
Total Net Assets - Beginning	(168,552,761)	164,758,881	171,002,195	176,953,962	182,482,920
Adjustment to Beginning Balance	-	(1,294,713)	-	-	-
Total Net Assets - Ending	\$164,758,881	\$171,002,195	\$176,953,962	\$182,482,920	\$185,516,999

Note: (1) The City's beginning capital assets and net assets in the Water and Wastewater Utility Funds have been restated to adjust historical cost and accumulated depreciation on the City's capital assets. The City did not properly reclassify construction in progress assets to capitalized assets when projects were completed and the assets were placed into service, or expense those costs associated with previously capitalized construction in progress assets for projects that were subsequently abandoned.

Sources: Water Utility Financial Statements, City of Norfolk Comprehensive Annual Financial Report, Fiscal Years 2005 through 2009.

## Management Discussion of Operating Results

The following discussion is based on operating budgets and historical operating results as shown in Tables 16 and 17, respectively. The revenues of the Fund have remained fairly stable over the past three years and total expenses of operating the System have remained fairly level over the last several years.

### OPERATING RESULTS AND DEBT SERVICE COVERAGE

Table 18 includes a summary of the Water Utility Fund's debt service coverage for Fiscal Years 2000 through 2009.

**Table 18**  
**Water Utility Fund**  
**Debt Service Coverage**  
**(Fiscal Years Ending June 30) (\$000s)**

Fiscal Year	Revenue Available for Debt Service (1)	Operating Expenses Less Depreciation & Amortization (2)	Income Available for Debt Service	Debt Service		Total	Coverage
				Principal	Interest		
2000	\$64,456,322	\$28,198,244	\$36,258,078	\$4,475,000	\$13,616,718	\$18,091,718	2.00
2001	64,459,300	29,732,203	34,727,097	4,680,000	13,411,636	18,091,636	1.92
2002	63,681,665	29,021,459	34,660,206	4,890,000	14,090,180	18,980,180	1.83
2003	67,760,029	30,867,286	36,892,743	5,700,000	14,600,283	20,300,283	1.82
2004	64,366,942	36,623,654	27,743,288	5,955,000	14,336,043	20,291,043	1.37
2005	69,183,154	37,584,692	31,598,462	6,250,000	14,041,059	20,291,059	1.56
2006	78,788,158	37,086,776	41,701,382	6,580,000	14,827,960	21,407,960	1.95
2007	76,013,563	35,050,694	40,962,869	7,310,000	14,379,821	21,689,821	1.89
2008	78,730,024	39,559,202	39,170,822	7,665,000	14,022,200	21,687,200	1.81
2009	78,020,552	40,807,627	37,212,925	8,050,000	16,411,343	24,461,343	1.52

Notes: (1) Includes operating revenue plus interest income not capitalized.

(2) Includes operating expenses less depreciation and amortization.

Source: City of Norfolk Comprehensive Annual Financial Report, Fiscal Year 2009.

### CONCLUSIONS OF THE CONSULTING ENGINEER

For a more complete discussion of historical and projected operating results and debt service coverage for Norfolk's Water Utility Fund, see Section 3 of the Consulting Engineer's Feasibility Study.

The Feasibility Study has been included in the Official Statement in reliance upon the authority of the Consulting Engineer as an expert in the field of water system engineering and financial forecasts. Based on review, analysis and assumptions set forth in the Feasibility Study, the Consulting Engineer concludes that:

- The City's present Water System can be expected to provide sufficient capacity to meet current water needs of its residents, businesses and all of its current contract obligations for the foreseeable future. The City's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations.

- The System is managed and operated in an appropriate manner consistent with sound engineering practices and with appropriate levels of staffing; and coupled with the CIP, is capable of providing safe and reliable drinking water to its customers for the foreseeable future.
- The System is in overall good condition and appears capable of revenue generation for the term of the 2010 Bonds with continued regular maintenance and scheduled system improvements.
- The CIP adequately addresses necessary System facility renovations and upgrades. The program sufficiently addresses current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that will appear to impact the improvements planned in the CIP.
- Throughout Fiscal Years 2011 through 2015 (the “Study Period”), the City’s net revenues are projected to be sufficient (including projected revenue increases indicated in the Feasibility Study resulting from rate increases which have been approved by City Council) to comply with the annual revenue covenant requirement in the Indenture, taking into account the actual or projected debt service on the Outstanding Senior Debt, the 2010 Bonds, and planned additional Bonds to be issued during the Study Period.
- The funds available from the 2010 Bonds, together with other funds available to the City will be sufficient to complete the design and/or construction of the CIP.
- Adequate utility reserves are projected to be maintained during the Study Period.
- Based on the City’s unaudited financial results for Fiscal Year 2010, the City is projected to be able to meet the revenue covenant requirements of the Indenture regarding the issuance of additional bonds, taking into account (i) the maximum principal and interest payments on the Outstanding Senior Debt and the 2010 Bonds and (ii) the rates, fees and other charges which are in effect and any future changes therein as have been approved by the Council at the time of the delivery of the 2010 Bonds.
- The sale of the 2010 Bonds in the amount of approximately \$47,105,000 is financially feasible under the assumptions and projections contained in the Feasibility Study.

**The Feasibility Study should be read in its entirety in order for the reader to effectively evaluate the Consulting Engineer's findings, analyses, assumptions, and conclusions.**

### **LEGAL MATTERS**

Certain legal matters relating to the authorization and validity of the 2010 Bonds are subject to the approving opinion of McGuireWoods LLP, Richmond, Virginia, Bond Counsel, which will be in substantially the form of Appendix F to this Official Statement. Such opinion will be furnished at the expense of the City upon delivery of the 2010 Bonds. Since Bond Counsel has not prepared this Official Statement and has not verified its accuracy, completeness or fairness, such opinion will be limited to matters relating to the authorization and validity of the 2010 Bonds and to the exemption of interest thereon under present federal and Virginia income tax laws. Certain legal matters will be passed on for the City by the City Attorney.

## **TAX MATTERS**

### **Opinion of Bond Counsel**

Bond Counsel's opinion will state that, under current law and assuming the compliance with the Covenants (as defined below) by the City and the accuracy of certain representations and certifications, interest on the 2010 Bonds (including any accrued "original issue discount" properly allocable to the owners of the 2010 Bonds), is (a) excludable from the gross income of the owners of the 2010 Bonds for purposes of federal income taxation under Section 103 of the Code, (b) not a specific item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations and (c) excludable from adjusted current earnings for purposes of computing the alternative minimum tax imposed on corporations (as defined for federal income tax purposes) under Section 56 of the Code. See Appendix F for the form of the opinion of Bond Counsel.

Bond Counsel will express no opinion regarding other federal tax consequences arising with respect to the 2010 Bonds.

Bond Counsel's opinion speaks as of its date, is based on current legal authority and precedent, covers certain matters not directly addressed by such authority and precedent, and represents Bond Counsel's judgment as to the proper treatment of interest on the 2010 Bonds for federal income tax purposes. Bond Counsel's opinion does not contain or provide any opinion or assurance regarding the future activities of the City or about the effect of future changes in the Code, the applicable regulations, the interpretation thereof or the enforcement thereof by the Internal Revenue Service (the "IRS"). The City has covenanted, however, to comply with the requirements of the Code.

### **Reliance and Assumptions; Effect of Certain Changes**

In delivering its opinion regarding the 2010 Bonds, Bond Counsel is relying upon and assuming the accuracy of representations and certifications of representatives of the City, the underwriters of the 2010 Bonds and other public officials as to facts material to the opinion, which Bond Counsel has not independently verified.

In addition, Bond Counsel is assuming continuing compliance with the Covenants by the City. The Code and the regulations promulgated thereunder contain a number of requirements that must be satisfied after the issuance of the 2010 Bonds in order for interest on the 2010 Bonds to be and remain excludable from gross income for purposes of federal income taxation. These requirements include, by way of example and not limitation, restrictions on the use, expenditure and investment of the proceeds of the 2010 Bonds and the use of the property financed or refinanced by the 2010 Bonds, limitations on the source of the payment of and the security for the 2010 Bonds, and the obligation to rebate certain excess earnings on the gross proceeds of the 2010 Bonds to the United States Department of the Treasury ("Treasury"). The tax certificate for the 2010 Bonds (the "Tax Certificate") contains covenants (the "Covenants") under which the City has agreed to comply with such requirements. Failure by the City to comply with the Covenants could cause interest on the 2010 Bonds to become includable in gross income for federal income tax purposes retroactively to their date of issue. In the event of noncompliance with the Covenants, the available enforcement remedies may be limited by applicable provisions of law and, therefore, may not be adequate to prevent interest on the 2010 Bonds from becoming includable in gross income for federal income tax purposes.

Bond Counsel has no responsibility to monitor compliance with the Covenants after the date of issue of the 2010 Bonds.

Certain requirements and procedures contained, incorporated or referred to in the Tax Certificate, including the Covenants, may be changed and certain actions may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such document. Bond Counsel expresses no opinion concerning any effect on excludability of interest on the 2010 Bonds from gross income for federal income tax purposes of any such subsequent change or action that may be made, taken or omitted upon the advice or approval of counsel other than Bond Counsel.

## **Certain Collateral Federal Tax Consequences**

The following is a brief discussion of certain collateral federal income tax matters with respect to the 2010 Bonds. It does not purport to address all aspects of federal taxation that may be relevant to a particular owner thereof. Prospective purchasers of such 2010 Bonds, particularly those who may be subject to special rules, are advised to consult their own tax advisors regarding the federal tax consequences of owning or disposing of the 2010 Bonds.

Prospective purchasers of the 2010 Bonds should be aware that the ownership of tax-exempt obligations may result in collateral federal income tax consequences to certain taxpayers including, without limitation, financial institutions, certain insurance companies, certain corporations (including S corporations and foreign corporations), certain foreign corporations subject to the "branch profits tax," individual recipients of Social Security or Railroad Retirement benefits, taxpayers who may be deemed to have incurred or continued indebtedness to purchase or carry tax-exempt obligations and taxpayers attempting to qualify for the earned income tax credit.

In addition, prospective purchasers should be aware that the interest paid on, and the proceeds of the sale of, tax-exempt obligations, including the 2010 Bonds, are in many cases required to be reported to the IRS in a manner similar to interest paid on taxable obligations. Additionally, backup withholding may apply to any 2010 Bond owner who fails to provide an accurate Form W-9 Request for Taxpayer Identification Number and Certification, or a substantially identical form, or to any 2010 Bond owner who is notified by the IRS of a failure to report all interest and dividends required to be shown on federal income tax returns. The reporting and withholding requirements do not in and of themselves affect the excludability of such interest from gross income for federal tax purposes or any other federal tax consequence of purchasing, holding or selling tax-exempt obligations.

### **Original Issue Discount**

The "original issue discount" ("OID") on any 2010 Bond is the excess of such bond's stated redemption price at maturity (excluding certain "qualified stated interest" that is unconditionally payable at least annually at prescribed rates) over the issue price of such bond. The "issue price" of a bond is the initial offering price to the public at which price a substantial amount of such bonds of the same maturity was sold. The "public" does not include bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers. The issue price for each maturity of the 2010 Bonds is expected to be the initial public offering price set forth on the inside front cover page of this Official Statement, but is subject to change based on actual sales. OID on the 2010 Bonds with OID (the "OID Bonds") represents interest that is excludable from gross income for purposes of federal and Virginia income taxation. However, the portion of the OID that is deemed to have accrued to the owner of an OID Bond in each year may be included in determining the alternative minimum tax with respect to the 2010 Bonds and the distribution requirements of certain investment companies and may result in some of the collateral federal income tax consequences mentioned in the preceding subsection. Therefore, owners of OID Bonds should be aware that the accrual of OID in each year may result in alternative minimum tax liability, additional distribution requirements or other collateral federal and Virginia income tax consequences although the owner may not have received cash in such year.

Interest in the form of OID is treated under Section 1288 of the Code as accruing under a constant yield method that takes into account compounding on a semiannual or more frequent basis. If an OID Bond is sold or otherwise disposed of between semiannual compounding dates, then the OID which would have accrued for that semiannual compounding period for federal income tax purposes is to be apportioned in equal amounts among the days in such compounding period.

In the case of an original owner of an OID Bond, the amount of OID that is treated as having accrued on such OID Bond is added to the owner's cost basis in determining, for federal income tax purposes, gain or loss upon its disposition (including its sale, redemption or payment at maturity). The amounts received upon such disposition that are attributable to accrued OID will be excluded from the gross income of the recipients for federal income tax purposes. The accrual of OID and its effect on the redemption, sale or other disposition of OID Bonds that are not purchased in the initial offering at the initial offering price may be determined according to rules that differ from those described above.

Prospective purchasers of OID Bonds should consult their own tax advisors with respect to the precise determination for federal income tax purposes of interest accrued upon sale or redemption of such OID Bonds and with respect to state and local tax consequences of owning OID Bonds.

### **Bond Premium**

In general, if an owner acquires a bond for a purchase price (excluding accrued interest) or otherwise at a tax basis that reflects a premium over the sum of all amounts payable on the bond after the acquisition date (excluding certain "qualified stated interest" that is unconditionally payable at least annually at prescribed rates), that premium constitutes "bond premium" on that bond (a "Premium Bond"). In general, under Section 171 of the Code, an owner of a Premium Bond must amortize the bond premium over the remaining term of the Premium Bond, based on the owner's yield over the remaining term of the Premium Bond, determined based on constant yield principles. An owner of a Premium Bond must amortize the bond premium by offsetting the qualified stated interest allocable to each interest accrual period under the owner's regular method of accounting against the bond premium allocable to that period. In the case of a tax-exempt Premium Bond, if the bond premium allocable to an accrual period exceeds the qualified stated interest allocable to that accrual period, the excess is a nondeductible loss. Under certain circumstances, the owner of a Premium Bond may realize a taxable gain upon disposition of the Premium Bond even though it is sold or redeemed for an amount less than or equal to the owner's original acquisition cost. Prospective purchasers of any Premium Bonds should consult their own tax advisors regarding the treatment of bond premium for federal income tax purposes, including various special rules relating thereto, and state and local tax consequences, in connection with the acquisition, ownership, amortization of bond premium on, sale, exchange, or other disposition of Premium Bonds.

### **Possible Legislative or Regulatory Action**

Legislation and regulations affecting tax-exempt bonds are continually being considered by the United States Congress, Treasury and the IRS. In addition, the IRS has established an expanded audit and enforcement program for tax-exempt bonds. There can be no assurance that legislation enacted or proposed after the date of issue of the 2010 Bonds or an audit initiated or other enforcement or regulatory action taken by Treasury or the IRS involving either the 2010 Bonds or other tax-exempt bonds will not have an adverse effect on the tax status or the market price of the 2010 Bonds or on the economic value of the tax-exempt status of the interest thereon.

### **Virginia Tax Matters**

Bond Counsel's opinion also will state that, under current law, interest on the 2010 Bonds is excludable from the gross income of the owners thereof for purposes of income taxation by the Commonwealth. Bond Counsel will express no opinion regarding (i) other Virginia tax consequences arising with respect to the 2010 Bonds or (ii) any consequences arising with respect to the 2010 Bonds under the tax laws of any state or local jurisdiction other than Virginia. Prospective purchasers of the 2010 Bonds should consult their own tax advisors regarding the tax status of interest on the 2010 Bonds in a particular state or local jurisdiction other than Virginia.

### **PENDING LITIGATION**

The City is involved from time to time in various legal actions some of which affect the System. In the opinion of the City Attorney, there is no litigation now pending or threatened to restrain or enjoin the issuance, sale, execution or delivery of the 2010 Bonds, or in any way contesting or affecting the validity of the 2010 Bonds, any proceeding of the City taken with respect to their issuance or sale, or the powers of the City with respect to the operation of the System including the City's ability to collect and apply Revenues of the System as set forth in the Indenture.

According to the City there is no litigation pending or, to its knowledge and belief, threatened which would have a material adverse effect on the operations or financial condition of the System.



## **BOND RATINGS**

The 2010 Bonds have been rated Aa2 by Moody's Investors Service, Inc. ("Moody's"), AA+ by Standard & Poor's Ratings Services ("Standard & Poor's") a division of The McGraw-Hill Companies, Inc., and AA+ by Fitch Ratings ("Fitch").

Explanations of the significance of such ratings may be obtained from Moody's, Standard & Poor's and Fitch. The ratings are not a recommendation to buy, sell or hold the 2010 Bonds and should be evaluated independently.

There is no assurance that such ratings will not be withdrawn or revised downward by Moody's, Standard & Poor's or Fitch. Such action may have an adverse effect on the market price of the 2010 Bonds. The City has not undertaken any responsibility after the issuance of the 2010 Bonds to assure maintenance of the ratings or to oppose any such revision or withdrawal.

## **FINANCIAL STATEMENTS**

The audited Fund financial statements with accompanying notes for the Fiscal Years 2008 and 2009 are published, along with the accompanying report of the City's Independent Accountants, in Appendix B to this Official Statement.

## **FINANCIAL ADVISOR**

The City has retained Public Financial Management, Inc., Arlington, Virginia ("PFM"), as financial advisor in connection with the issuance and sale of the 2010 Bonds. Although PFM has assisted in the preparation of this Official Statement, PFM is not obligated to undertake, and has not undertaken to make, an independent verification or to assume responsibility for the accuracy, completeness or fairness of the information contained in this Official Statement. PFM is an independent advisory firm and is not engaged in the business of underwriting, trading or distributing municipal securities or other public securities.

## **CERTIFICATES OF CITY OFFICIALS**

Concurrently with the delivery of the 2010 Bonds, the City will furnish (1) a certificate, dated the date of delivery of the 2010 Bonds, signed by appropriate City officials, stating that, to the best of their knowledge, no litigation is then pending or threatened (i) to restrain or enjoin the issuance or delivery of the 2010 Bonds; (ii) in any way contesting or affecting any authority for the issuance of the 2010 Bonds or the validity of the 2010 Bonds or the Indenture; (iii) in any way contesting the existence or powers of the City; or (iv) to restrain or enjoin the collection of the Net Revenues pledged or to be pledged to pay the principal of and premium, if any, and interest on the 2010 Bonds and (2) a certificate dated the date of delivery of the 2010 Bonds signed by the appropriate City officials and stating that the descriptions and statements in this Official Statement including the Appendices hereto (except in the section entitled "PENDING LITIGATION") at the time of acceptance of the proposal for the 2010 Bonds and at the date of delivery were and are true and correct in all material respects and do not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

## **SALE AT COMPETITIVE BIDDING**

The 2010 Bonds were sold at competitive bidding on September 14, 2010, to Hutchinson, Shockey, Erley & Co. (the "Underwriter"). The Underwriter has supplied the information as to the interest rates, offering prices and yields of the 2010 Bonds as set forth on the inside front cover of this Official Statement. If all of the 2010 Bonds are resold to the public at such offering prices and yields, the Underwriter has informed the City that it anticipates total underwriting compensation of \$536,663.55.

## **CONTINUING DISCLOSURE**

The offering of the 2010 Bonds is subject to the continuing disclosure requirements of the Rule. Pursuant to the Rule, the City has undertaken for the benefit of the Bondholders to make public certain annual financial information and notice of certain material events by furnishing such information to the Municipal Securities Rulemaking Board. The City is in compliance with all Rule requirements.

**See Appendix G "FORM OF CONTINUING DISCLOSURE AGREEMENT" for a more detailed description of the City's continuing disclosure undertakings.**

There have been no instances in which the City has failed in any material respect to comply with the provisions of the Rule. A failure by the City to comply with its continuing disclosure undertaking will not constitute an Event of Default under the Indenture (although the Bondholders will have any available remedy at law or in equity to enforce the undertaking). However, a failure must be reported in accordance with the Rule and must be considered by any broker, dealer or municipal securities dealer before recommending the purchase or sale of the 2010 Bonds in the secondary market. Consequently, such a failure may adversely affect the transferability and liquidity of the 2010 Bonds and their market price.

## **MISCELLANEOUS**

This Official Statement and any advertisement of the 2010 Bonds are not to be construed as a contract with the purchasers of the 2010 Bonds. Any statement made in this Official Statement involving matters of opinion or of estimates, whether or not so expressly identified, are set forth as such and not as representations of fact, and no representation is made that any of the estimates will be realized.

The references in this Official Statement to and summaries of federal, Commonwealth and City laws, including but not limited to the Constitution of the Commonwealth, the Code of Virginia, the City Charter and documents, agreements and court decisions are summaries of certain of their provisions. Such summaries do not purport to be complete and are qualified in their entirety by reference to such acts, laws, documents, agreements or decisions, copies of which are available for inspection during normal business hours at the office of the City Attorney.

Any question concerning the content of this Official Statement should be directed to the Director of Finance, 810 Union Street, 600 City Hall Building, Suite 600, Norfolk, Virginia 23510, (757) 664-4346.

The City Council has by ordinance authorized the execution and delivery of this Official Statement on behalf of the City by the City Manager and the Director of Finance.

## **CITY OF NORFOLK, VIRGINIA**

/s/ Regina V.K. Williams

City Manager

/s/ Darrell V. Hill

Director of Finance

**SERIES 2010 WATER REVENUE BOND FEASIBILITY REPORT**

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**BUILDING A WORLD OF DIFFERENCE®**



**NORFOLK, VIRGINIA**

# **Series 2010 Water Revenue Bond Feasibility Report**

**August 2010**

August 30, 2010

City Council  
City of Norfolk  
City Hall Building  
810 Union Street  
Norfolk, Virginia 23510

Subject: Series 2010 Water Revenue Bond Feasibility Report

Honorable Council Members:

We are pleased to submit our Series 2010 Water Revenue Bond Feasibility Report (the “Report”) prepared in support of \$47,105,000<sup>1</sup> City of Norfolk, Water Revenue Bonds, Series 2010 (the “2010 Bonds”). This Report presents the findings of engineering and financial studies performed by Black & Veatch.

In preparation of this Report, we have conducted on-site inspections of the Water System, reviewed the records and reports of the Water Utility Fund, reviewed the City’s Master Indenture, and conducted financial analyses for the purpose of addressing the feasibility of the 2010 Bonds.

Based on our engineering and financial studies, the following findings are presented:

1. The City’s present Water System can be expected to provide sufficient capacity to meet current water needs of its residents, businesses and all of its current contract obligations for the foreseeable future. The City’s treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations.
2. The Water System is managed and operated in an appropriate manner consistent with sound engineering practices and with appropriate levels of staffing; and coupled with the proposed Capital Improvement Program (“CIP”), is capable of providing safe and reliable drinking water to its customers for the foreseeable future.
3. Norfolk's Water System is in overall good condition and appears capable of revenue generation for the term of the 2010 Bonds with continued regular maintenance and scheduled System improvements.
4. The CIP for FY 2011 through FY 2015 adequately addresses necessary Water System facility renovations and upgrades. The program has sufficiently addressed current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that will appear to impact the improvements planned in the CIP.
5. Throughout the Study Period, the City’s net revenues are projected to be sufficient (including projected revenue increases indicated in the Report resulting from rate increases which have been approved by City Council) to comply with the annual revenue covenant requirement in the Indenture, taking into account the Outstanding Senior Debt, the 2010 Bonds, and planned additional revenue bonds to be issued during the Study Period.
6. The funds available from the 2010 Bonds, together with other funds available to the City, will be sufficient to complete the design and/or construction of the proposed CIP.

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<sup>1</sup> Preliminary, subject to change.

7. Adequate reserves are projected to be maintained during the Study Period.
8. Based on the City's unaudited financial results for FY 2010, the City is projected to be able to meet the revenue covenant requirements of the Master Indenture regarding issuance of additional bonds, taking into account (i) the maximum principal and interest payments on the Outstanding Senior Debt and the 2010 Bonds and (ii) the rates, fees and other charges which are in effect and any future changes therein as have been approved by the Council at the time of the delivery of the 2010 Bonds.
9. The sale of the 2010 Bonds, in the amount of approximately \$47,105,000<sup>1</sup> is financially feasible under the assumptions and projections contained in this report.

Subject to the limitations set forth herein, this Report was prepared for the City by Black & Veatch and is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render an independent judgment of the validity of the information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this report, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances which may occur in the future. The methodology utilized by Black & Veatch in performing the analyses follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

The City may only distribute the complete report to third parties, including the above statements and not parts thereof. The City's duty to distribute only the complete report, including the above statements, shall not apply to internal City documents derived from the report that come within the scope of applicable records, sunshine or freedom of information laws and are requested under such laws by interested citizens.

Black & Veatch appreciates the opportunity to present the findings of our studies.

Very truly yours,

BLACK & VEATCH CORPORATION



Peggy L. Howe  
Vice President

PLH/jad

Enclosure

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<sup>1</sup> Preliminary, subject to change.

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# 1.0 INTRODUCTION

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## 1.0 INTRODUCTION

### **1.1 Purpose and Limitations**

The purpose of this Report is to summarize findings of engineering and financial studies performed by Black & Veatch Corporation (“Black & Veatch”) in connection with the proposed issuance of City of Norfolk, Virginia (the “City” or “Norfolk”), Water Revenue Bonds, Series 2010 (the “2010 Bonds”) in the aggregate principal amount of approximately \$47,105,000<sup>1</sup>. Norfolk plans to use the proceeds from the 2010 Bonds to fund certain Water Utility capital projects included in the City’s Capital Improvement Program (as more particularly defined below, the “CIP”), to provide funding for the debt service reserve requirement under the Indenture, and to pay associated issuance costs. The 2010 Bonds will be issued under the Master Indenture of Trust as previously amended and supplemented (the “Master Indenture”) and as further supplemented by the Eighth Supplemental Indenture of Trust. The Master Indenture and the eight Supplemental Indentures are referred to collectively as the Indenture. Under the Indenture the City issued its’ Series 1993, 1995, 1998, 2001, 2005 and 2008 Water Revenue Bonds, respectively (collectively, the “Outstanding Senior Debt”).

The terminology used in this Report is consistent with the terms and definitions as presented in the Indenture and Appendix C of the Official Statement.

Subject to the limitations set forth herein, this Report was prepared for the City by Black & Veatch and is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render an independent judgment of the validity of the information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this Report, Black & Veatch has made certain assumptions with respect to conditions, events and circumstances which may occur in the future. The methodology utilized by Black & Veatch in performing the analyses follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

The City may only distribute the complete report to third parties, including the above statements and not parts thereof. The City's duty to distribute only the complete report, including the above statements, shall not apply to internal City documents derived from the report that come within the scope of applicable records, sunshine or freedom of information laws and are requested under such laws by interested citizens.

### **1.2 Scope**

The results of the engineering studies are based on site visits and review of relevant documents and records. Our findings address the adequacy of the physical condition of the City’s water supply, treatment, storage and distribution facilities (the “Water System”), Water System capacity, operation and maintenance practices, staffing levels, and the proposed CIP to meet current and future requirements.

The financial analysis is based on a review of the City’s Department of Utilities’ Water Utility (“Water Utility”) records plus the Revenue Covenant and other relevant provisions of the Master Indenture. The analysis includes the projection of revenues and revenue requirements for the City’s fiscal years (“FY”) ending June 30, 2011 through 2015 (the “Study Period”), an evaluation of anticipated annual debt service coverage on the Outstanding Senior Debt, the 2010 Bonds and additional Bonds proposed to be issued during

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<sup>1</sup> Preliminary, subject to change.

# 1.0 INTRODUCTION

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the Study Period, and a demonstration of the adequacy of projected revenues to maintain bond reserves while meeting projected costs of Water System operation.

In this Report, where standards or requirements are indicated as being applicable, being fulfilled, or to be attained, such standards or requirements are those promulgated by the United States Environmental Protection Agency (the “EPA”), the Virginia Department of Environmental Quality (the “DEQ”) and the Virginia Department of Health (the “VDH”) in accordance with the provisions of Federal laws and the laws of the Commonwealth of Virginia governing the provision of drinking water services.

The ratings assigned in this Report are the result of physical inspections of the described Water System facilities that were conducted in May 2010. The general physical condition of the Water System’s facilities has been evaluated using three rating categories — good, adequate and poor as described below:

- *Good:* The facility is in condition to provide reliable operation in accordance with design parameters and requires only routine maintenance.
- *Adequate:* The facility is operating at or near design levels; however, non-routine renovation, upgrading and repairs are needed to ensure continued reliable operation. Significant expenditures for these improvements may be required.
- *Poor:* The facility is not being operated within design parameters. Major renovations are required to restore the facility and assure reliable operation. Major expenditures for these improvements may be required.

The evaluation of the City’s large Water System requires an assessment of each of the Water System’s major components. The overall evaluation described in this Report is based on observations and estimates of the degree of improvement that has been and will be provided by the projects in the CIP, and their impact in meeting service requirements.

## 1.3 Black & Veatch Qualifications

Black & Veatch is one of the largest and most experienced engineering, construction and consulting firms in the United States specializing in utility engineering and finance. Our experience includes the planning, design, construction, and operations analyses of water, wastewater, and energy generation and transmission utility systems. In addition, the firm has extensive experience in assisting utilities with management, financing and rate aspects of their operations. The firm has been engaged in projects for clients worldwide, including utilities owned by municipalities ranging in size from small villages to large metropolitan regions; investor-owned utilities; industrial and commercial businesses; plus United States and international governmental agencies.

The physical evaluation of the water systems has been performed by experienced personnel of the firm's Water Sector Business which provides study, design, and construction services in all facets of the water and wastewater fields. Water system engineering experience of this business unit includes the design of a broad variety of facilities such as source of supply, pumping stations, treatment plants, and transmission and distribution systems. The Water Sector Business also has extensive experience in operator training, plant management studies, and preparation of operation and maintenance manuals for water systems.

This financial feasibility study has been performed by professionals from Black & Veatch’s Enterprise Management Solutions Division. This business unit provides services in such areas as utility economic and financial feasibility analyses, rate studies, property valuation, depreciation rate studies, strategic financial planning, non-audit accounting, management and operations analysis, benchmarking and the preparation of consulting engineering reports for official statements.

## 1.0 INTRODUCTION

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CITY OF NORFOLK, VIRGINIA  
SERIES 2010 REVENUE BOND FEASIBILITY ANALYSIS

Having performed numerous financial and rate services for the City of Norfolk's Department of Utilities over the last 40 years, personnel from the Black & Veatch are quite familiar with the Department's operations and financial matters.

## 2.0 ENGINEERING ANALYSIS

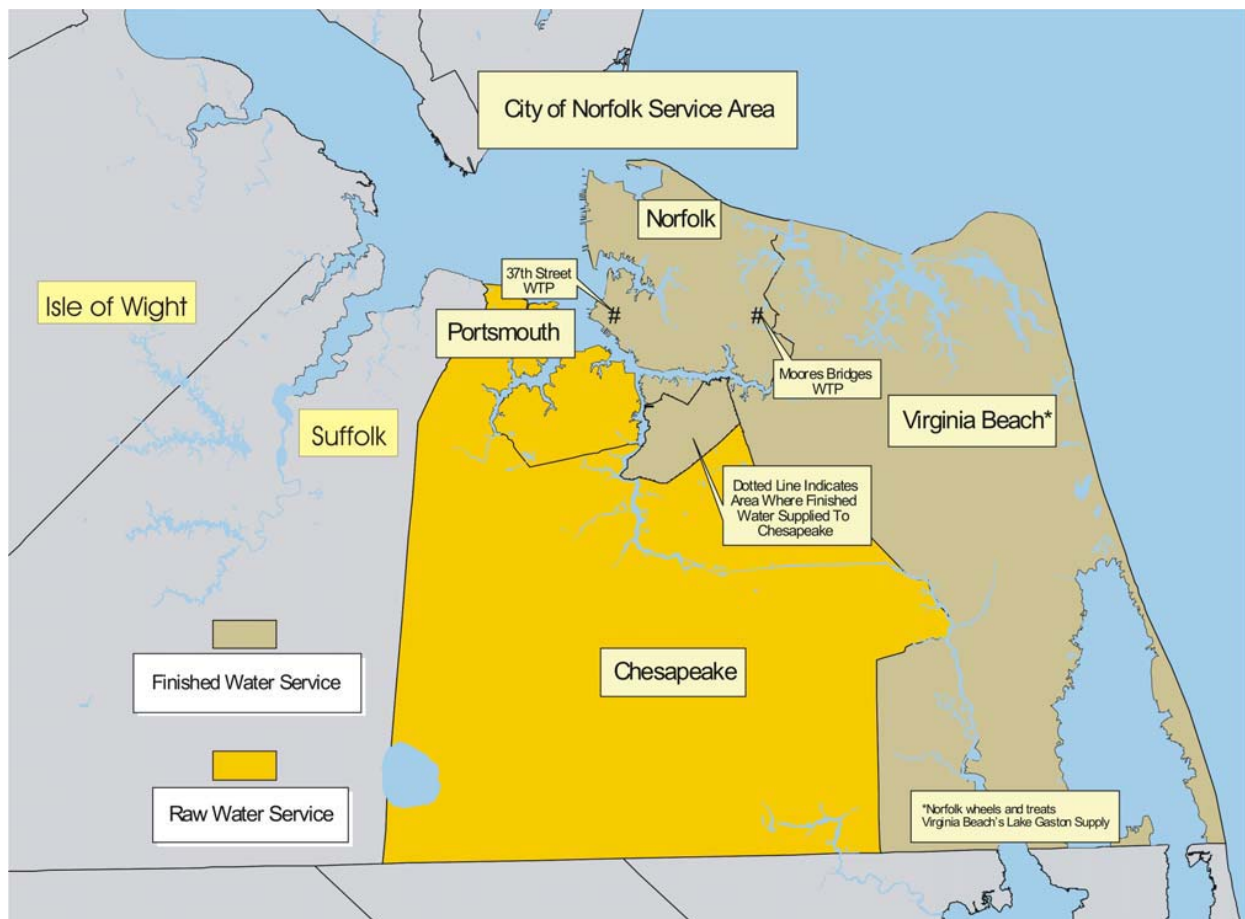
### 2.0 ENGINEERING ANALYSIS

#### 2.1 Service Area and Customer Base

The City, through its Department of Utilities, owns and operates the Water System, which provides potable water to approximately 67,000 Retail Service customers (i.e. accounts) and Wholesale Service to the U.S. Navy, the City of Virginia Beach (“Virginia Beach”), the City of Chesapeake (“Chesapeake”), and the Western Tidewater Water Authority (the “WTWA”) (which includes the City of Suffolk and Isle of Wight County). Population in the area served by the Water System totals approximately 820,000 people.

The City of Norfolk covers an area of 66 square miles, approximately one-fourth of which is occupied by U.S. Navy facilities. Norfolk’s Retail Service area and the Wholesale Service areas, with distribution systems owned by Wholesale customers, are shown in Figure 1.

Figure 1 Service Area Map



According to the Weldon Cooper Center for Public Service, the City’s population has increased from approximately 234,000 to 238,000, or about 1.4 percent, since the 2000 Census (source: Weldon Cooper Center for Public Service at the University of Virginia, January 2010). Norfolk Retail Service accounted for approximately 42.8 percent of total raw and treated water sales revenue during FY 2010. According to this same source, the population of the Norfolk-Virginia Beach Metropolitan area, which relies in large part on the Water System, has increased approximately 5.5 percent since the year 2000. Water sales to Virginia Beach

## 2.0 ENGINEERING ANALYSIS

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and other wholesale customers accounted for approximately 54.0 percent of total treated water sales revenue during FY 2010.

In FY 2010, the City provided about 33.4 million gallons per day (“mgd”) of treated water to Virginia Beach under the 1993 Water Services Contract, as amended February 14, 2001. Virginia Beach is the largest Wholesale customer of the City, accounting for 51.0 percent of total water volume delivered during FY 2010.

Rapid growth since 1950 combined with early 1980s water shortages in the region, led Virginia Beach to investigate and locate a source of water supply to supplement existing regional supplies and to meet their long-term demands. Virginia Beach’s “Lake Gaston Project” consists of a 60.0 mgd intake and pump station plus a 76-mile, 60-inch diameter pipeline from the Pea Hill Creek Tributary of Lake Gaston in Brunswick County, Virginia to the City of Norfolk’s Western Reservoir System in Isle of Wight County.

The Water Services Contract covers Lake Gaston water being pumped to the City’s Western Reservoir System for transportation and treatment to treated water quality by the City for Wholesale Service delivery to Virginia Beach. As an additional provision of the Water Services Contract, the City agreed to wheel up to 10.0 mgd of Lake Gaston raw water for Chesapeake to the Red Top area, which is located within the City limits of Suffolk and near the City’s Western Branch Pump Station. When required, the City will construct the pumping and transmission facilities at Virginia Beach’s expense. Currently, this additional provision to provide raw water to Chesapeake’s Red Top area has not been initiated.

It should be noted that the raw water currently purchased by Chesapeake from Norfolk is not part of this 10.0 mgd allocation of Lake Gaston raw water. The raw water currently purchased by Chesapeake is a simple raw water purchase of Norfolk’s surplus raw water capacity. Chesapeake funded the improvements necessary to deliver this raw water to Chesapeake’s Lake Gaston Water Treatment Plant. This Raw Water Contract is a “take or pay” supply of 7.0 mgd with a maximum delivery of 10.0 mgd.

### 2.2 Present Water System

This section describes Norfolk’s Water System as it now exists, including projects currently under construction to improve or augment existing facilities. Black & Veatch inspected facilities in May 2010 to determine the operating condition of the Water System. Norfolk continues to maintain the physical facilities of the Water System in an overall good operating condition. Based on the observations during the Black & Veatch inspections, operation and maintenance performance for treatment, pumping, transmission and distribution facilities is good; and staffing levels are adequate. Overall, current Water System capacity is adequate to handle Norfolk’s current Retail and Wholesale Service demands.

#### 2.2.1 Raw Water Supply Facilities

The raw water supply facilities in the Water System consist of two river intake/pump stations, three raw water reservoirs in western Suffolk and eastern Isle of Wight County known collectively as the “Western Reservoir System,” five reservoirs in or near Norfolk called the “In-Town Reservoirs,” and four groundwater supply wells which discharge into Lake Prince and Lake Burnt Mills (components of the Western Reservoir System). As mentioned previously, the raw water supply also includes raw water delivered from Lake Gaston via the City of Virginia Beach Lake Gaston Raw Water Pump Station and pipeline. In addition, Virginia Beach owns and operates Stumpy Lake Reservoir and Pump Station, which supplements the City’s In-Town Reservoirs.

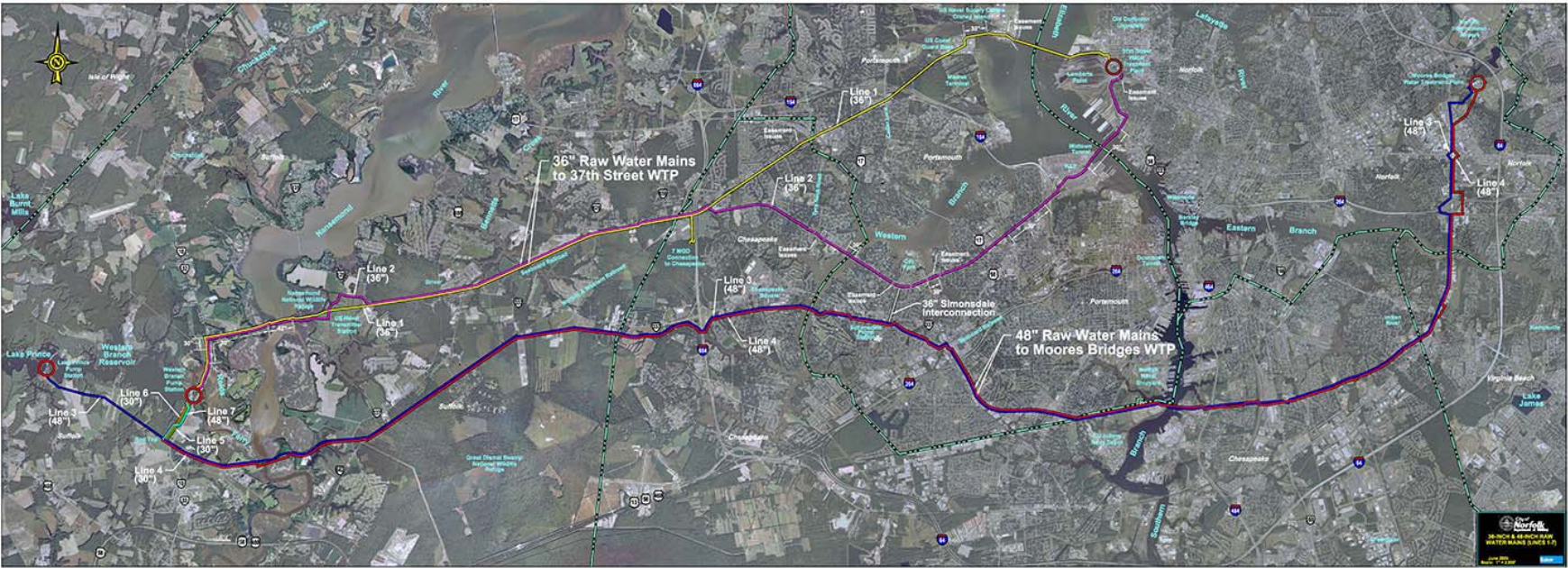
It should be noted that the Virginia Beach Water Services Contract assigns Norfolk the responsibility to effectively manage the use of Virginia Beach’s Lake Gaston Pump Station so that minimal water loss occurs in the Western Reservoir System because of Western Branch Reservoir spillway overflows.

A map of the raw water transmission facilities is shown in Figure 2.



2.0 ENGINEERING ANALYSIS

Figure 2 Raw Water Transmission Facilities Map



## 2.0 ENGINEERING ANALYSIS

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The Western Reservoir System consists of Lake Prince, Lake Burnt Mills and Western Branch Reservoirs, which have capacities of approximately 3.7, 3.4 and 6.0 billion gallons, respectively. Water from Lake Prince and Lake Burnt Mills overflows their respective spillways or can be released directly into the Western Branch Reservoir. Any overflow from Western Branch Reservoir enters the Nansemond River and flows to the James River and eventually empties into the Chesapeake Bay.

The dams for these reservoirs are monitored and inspected regularly as per Federal and Virginia Dam Safety regulations. However, to comply with new Federal and Virginia Dam Safety regulations, each Class I dam owned by the City must be modified with parapet walls on top of earthen dams to safely control a probable maximum flood event. In fact, to this end, the City recently won the National Dam Rehabilitation Project of the Year award from the Association of State Dam Safety Officials for recent improvements to the Lake Burnt Mills Dam. Similar improvements for the Western Branch Dam and spillway are scheduled to begin in FY 2011 with a previously approved CIP budget of \$14 million. An additional \$150,000 is planned in the current CIP for FY 2013 (Table 1, Line 15) to provide funds for miscellaneous measures that need to be performed on the Western Reservoir System for watershed protection.

Reservoir aeration systems are located within both Lake Prince and the Western Branch reservoirs. They are used to improve raw water quality by maintaining adequate dissolved oxygen levels in the hypolimnetic zone thereby controlling manganese release from the sediments by maintaining an oxidizing environment. This reduces the need for additional treatment chemicals (and the subsequent costs) at the treatment plants and improves treated water quality by reducing manganese and disinfection by-product levels. Compressor buildings are located adjacent to the Western Branch and Lake Prince pump stations and supply air to aerators that are located in both the Western Branch and Lake Prince reservoirs. The compressor buildings and associated equipment appeared to be in good working condition and the aerators that could be seen appeared to be in relatively good condition and working as expected. The routine replacement and rehabilitation of five of the aerators is expected to continue in FY 2011 at a projected cost of \$950,000 (Table 1, Lines 3 and 4). These improvements were funded under a previously approved CIP.

In addition to the surface water supply facilities, Norfolk owns and maintains four deep groundwater supply wells, which have a total capacity 16.0 mgd. The wells are approximately 800 to 1,200 feet deep and are typically used only during drought conditions. When operating, three wells (No. 1, No. 2, and No. 4) discharge directly into Lake Prince and one well (No. 3) discharges into Lake Burnt Mills. Well No. 2 was observed in good condition and staff indicated that the others are also in good condition. However, due to water quality issues and elevated hardness in the groundwater as compared to the surface water supplies, an acid delivery system is proposed for each well to help reduce hardness prior to intermixing with the surface water supplies. These improvements were approved for FY 2011 at a total cost of \$1 million (Table 1, Line 9). According to City Staff, these wells are being re-permitted with the Commonwealth and these new permits should be finalized in the next two to three months.

The Norfolk-owned river intakes/pump stations are on the Nottoway and Blackwater Rivers and discharge into pipelines terminating at the head waters of Lake Prince in the Western Reservoir System. The river pump stations are used to transport raw river water to Lake Prince and Western Branch Reservoirs depending on need. Raw water is conveyed via dedicated 42-inch raw water pipelines from each river pump station (20 mile pipeline for the Nottoway River supply and 10 mile pipeline for the Blackwater River supply). These pipelines do have an interconnect to allow flow from one pump station to be conveyed by either pipeline (or both pipelines concurrently). According to City staff, these pipelines are in adequate condition. No significant improvements to these pipelines are scheduled or anticipated during the Study Period.

The Blackwater Pump Station has a nominal capacity (via four pumps) of 23.5 mgd through the Blackwater pipeline and 24.5 mgd with the interconnect open. The Nottoway Pump Station has a nominal capacity (via

## 2.0 ENGINEERING ANALYSIS

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CITY OF NORFOLK, VIRGINIA  
SERIES 2010 REVENUE BOND FEASIBILITY ANALYSIS

four pumps) of 24.0 mgd through the Nottoway pipeline and 31.0 mgd with the interconnect open. Both pump stations are in adequate condition with no apparent structural issues, given their age. Additionally, while the pumps are 50 to 70 years old, City staff indicated that they still operate acceptably. Seals and bearings were replaced on the pumps at the Blackwater Pump Station in 1998, and replaced on the pumps at the Nottoway Pump Station within the last year.

The Nottoway and Blackwater Pump Stations, however, are vulnerable to flooding which can put the pumps out of service during significant rainfall events. As such, the City underwent a comprehensive engineering review to develop improvements to both stations that will minimize the impacts of flooding. Phase I consists of rehabilitating the bulkhead system, providing emergency generators and adding temporary flood controls and is scheduled to commence in FY 2011 with a budget of \$4.5 million (Table 1, Line 1). It should be noted that these funds were approved in a previous CIP. These improvements will provide additional protection against flooding until the long-term solutions proposed for Phase II can be implemented. Phase II includes additional and more permanent waterproofing at both facilities and is scheduled to commence in FY 2013 with an additional budget of \$4.5 million (Table 1, Line 8).

The Lake Prince Pump Station transfers water directly to the Moores Bridges Water Treatment Plant (“Moores Bridges WTP”). It also has a dedicated pump and transmission main for providing raw water to the City of Portsmouth (“Portsmouth”) during emergency situations. Four 10.0 mgd vertical turbine pumps are located at the Lake Prince Pump Station and appear to be in adequate condition. The Lake Prince Pump Station has a nominal capacity of 30.0 mgd with one pump out of service and Western Branch and Simonsdale No. 1 Pump Stations off-line. It should be noted that two of the four pumps were installed in 2005 and 2007. The other two pumps are 1989 vintage and in good working condition. The intake screens showed some corrosion, but appear to be working as expected and staff indicated that they have had no major maintenance issues. However, similar to the Nottoway and Blackwater Pump Stations, the Lake Prince Pump Station is susceptible to flooding. As such, \$1 million (Table 1, Line 2) had been approved in a previous CIP to replace and raise the motor controls for the pumps to prevent damage from future flooding events. These improvements are the only significant improvements scheduled or anticipated for the Lake Prince Pump Station during the Study Period.

The Western Branch Pump Station, having a 152.0 mgd hydraulic design capacity, currently has the installed pump capacity of 112.0 mgd. The Western Branch Pump Station was constructed in 2000 and is in good working order based on visual inspection and conversations with City staff. Improvements to the Western Branch Pump Station to supply the WTWa with 3.0 mgd of raw water initially and 15.0 mgd ultimately are scheduled to be in service by January 1, 2014. The City budgeted \$3 million for these improvements (Table 1, Line 5) under a previously approved CIP; however, while the City will initially fund these improvements, the City will be reimbursed directly by the WTWa under the terms of the City’s contract with the WTWa. The only other significant improvements to the Western Branch Pump Station will be the pump and piping improvements to deliver Chesapeake’s portion of the Lake Gaston water supply to the Red Top area when requested by Chesapeake. As noted previously, these improvements will be funded directly by Virginia Beach under the terms of their agreement and, as such, no funds are required in the City’s CIP for this project.

The Western Branch Pump Station delivers 28.0 mgd of raw water to the 37<sup>th</sup> Street Water Treatment Plant (the “37<sup>th</sup> Street WTP”) via dual 36-inch transmission mains (Raw Water Lines 1 and 2). These mains have been in need of repair and have undergone significant replacements in recent years. Pipeline segments in or along Reid’s Ferry, Coast Guard Boulevard, Craney Island, Driver and other locales have been replaced and have significantly reduced leakage. Additional improvements totaling approximately \$91 million (Table 1, Line 7) have been included in the CIP in FY 2011 through FY 2015 for water main transmission and distribution repair and replacement, with much of this, according to City staff, being focused on these dual



## 2.0 ENGINEERING ANALYSIS

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36-inch transmission mains. Raw Water Lines 1 and 2 of the raw water conveyance system are likely the most critical lines and, while the most critical sections of these lines have already been repaired or replaced, the City is planning to repair or replace the balance of these lines within the next five years.

The Moores Bridges WTP is primarily supplied at a maximum day rate via the Western Branch Pump Station, Lake Prince Pump Station, and the two Simonsdale Booster Pump Stations (Nos. 1 and 2). The raw water is conveyed via 30 miles of dual 48-inch transmission mains (Raw Water Lines 3 and 4). These dual pipelines have a capacity of 109.0 mgd when operated in parallel and both Simonsdale Booster Pump Stations are operating. These lines are relatively new (constructed in the 1990's) and are in good condition. Therefore, there are no significant scheduled or anticipated improvements for these pipelines during the Study Period.

The Simonsdale Pump Stations No. 1 and No. 2 are booster pump stations located on the Raw Water Lines 3 and 4, respectively. Simonsdale No. 1 has three pumps, each with a pumping capacity of 16,000 gallons per minute ("gpm") (or 23.0 mgd), and Simonsdale No. 2 has five pumps, each with a capacity of 10,677 gpm (or 15.4 mgd). There is also an interconnect that allows these two pump stations to convey water from Raw Water Lines 3 and 4 to Raw Water Lines 1 and 2. Should Raw Water Lines 1 and 2 fail upstream of the interconnect and be unable to supply the 37<sup>th</sup> Street WTP, then the City can continue to supply the 37<sup>th</sup> Street WTP via Raw Water Lines 1 and 2 and the interconnect. Due to recent raw water demands, these pump stations have not been utilized regularly in recent years. Both pump stations are in good condition as the Simonsdale Pump Station No. 1 underwent some recent improvements, including pump replacements and upgrades to the control and ventilation systems, within the last 10 years and Simonsdale Pump Station No. 2 is relatively new (less than 10 years old).

As noted previously, the In-Town Reservoirs consist of five City-owned and operated water supply reservoirs. Lake Lawson, Lake Smith, and Little Creek Reservoir in Virginia Beach; and Lake Whitehurst and Lake Wright in the City of Norfolk. In addition, Stumpy Lake is owned and operated by Virginia Beach, but provides additional raw water supply as directed by the City of Norfolk via a 5.0 mgd pumping station and pipeline that discharges directly to Lake Lawson. The total capacity of the five In-Town Reservoirs plus Stumpy Lake is approximately 2.3 billion gallons.

The five City-owned In-Town Reservoirs are connected by man-made canals and flow by gravity to the Moores Bridges WTP. In-Town Reservoir raw water is presently used in combination with the maximum month pumping of Western Reservoir System raw water to meet Moores Bridges WTP maximum day treatment requirements. Raw water from the In-Town Reservoir system is delivered to the Moores Bridges WTP via the Lake Wright Pump Station which is located on Lake Wright at the Moores Bridges WTP. The Lake Wright Pump Station is used infrequently due to recent demand trends, but has an ultimate capacity of 58.0 mgd if Western Branch and Lake Prince Pump Stations are off-line. Water Utility personnel regularly inspect and maintain the In-Town Reservoirs. The overall condition of all the dams and spillways is good. However, trees have grown on the Lake Smith Dam, and, accordingly, the City has budgeted \$150,000 in FY 2011 (Table 1, Line 11) for removal of these trees.

It should also be noted that the City also maintains Lake Taylor which is located adjacent to the Moores Bridges WTP. Lake Taylor is extremely shallow (less than three feet at full pool) and does not provide any true raw water storage so the City does not consider it part of the In-Town Reservoir facilities. Moreover, the spillways for its two dams are in relatively poor condition. City staff will make further assessment of the necessary repairs at the Lake Taylor dams upon the completion of tree removal work currently scheduled for FY 2013 (Table 1, Line 16). This plan seems prudent when considering the other needs of the Water System. The spillways do not appear to be in danger of failing, and even if they did, the released water would flow to the Elizabeth River via Broad Creek with no subsequent damage to surrounding property.

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As a whole, the raw water supply facilities, including the reservoirs, dams, river intakes, wells, and pump stations are well-operated and maintained. There are certain segments of the dual 36-inch pipelines supplying the 37<sup>th</sup> Street WTP (Raw Water Lines 1 and 2), which have been identified by the City and are on a planned replacement schedule (Table 1, Line 7). It appears any necessary and significant improvements have been considered and are incorporated into the City's CIP.

### 2.2.2 Water Treatment Facilities

The Department of Utilities owns and operates two major water treatment plants, the Moores Bridges WTP and the 37<sup>th</sup> Street WTP. The Moores Bridges WTP primarily provides treated water to the eastern one-third of Norfolk, and to Virginia Beach. The 37<sup>th</sup> Street WTP provides treated water primarily to the western two-thirds of Norfolk. Treated water from both plants also serves U.S. Navy facilities and Chesapeake.

#### 2.2.2.1 Moores Bridges Water Treatment Plant

The initial treatment plant at Moores Bridges WTP was constructed in 1873. Additions and improvements have been made to the plant over the years resulting in a hydraulic capacity of 108.0 mgd as of the latest round of improvements in 1999. As mentioned previously, the plant receives water primarily from the Western Reservoir System through two 48-inch pipelines and secondarily from the In-Town Reservoirs through the Lake Wright Pump Station located at the plant site.

The Moores Bridges WTP is a conventional water treatment plant incorporating coagulation, flocculation, sedimentation, filtration and disinfection. There are four ground storage tanks that store 24 million gallons of finished water for delivery to the system through the high service pump stations, primarily High Pressure Pump Station No. 2, which includes four 40.0 mgd pumps. In addition, High Pressure Pump Station No. 1 is used exclusively at night due to the low flow evening demands and in conjunction with High Pressure Pump Station No. 2 during the day and during high demand periods. In case of an emergency, the WTP has five 1,750 kilowatt ("kW") standby generators that are capable of supplying enough power to operate the entire plant. Based on a review of the water quality records, Moores Bridges WTP produces water that complies with all Safe Drinking Water Act standards.

In addition to the liquid stream processes, the plant also has solids handling facilities that consist of chemical conditioning, gravity thickening and plate and frame presses for manual dewatering of sludge. Dewatered cake solids are transported to the Southeastern Public Service Authority (the "SPSA") regional landfill and local farms to be used as a soil conditioning aid. The City has a contract with the SPSA specifying that 95 percent of the City's solid waste, including the Water Utility's dewatered cake solids, can be delivered to the SPSA's landfills. According to the City, the current contract extends to 2014, and the City pays \$45/ton for disposed solids. Since the SPSA benefits by using the water treatment residuals as ground cover for its other solid wastes, Norfolk has negotiated reduced disposal charges for its delivered dewatered cake solids. In a separate contract with Southern Aggregates, the dewatered cake solids that are not delivered to the SPSA are beneficially reused and applied to farmland due to the high lime content that results from the lime addition required as part of the dewatering process. The cost to the Water Utility of disposal through Southern Aggregates is \$35/ton.

While it does show its age in some areas, the Moores Bridges WTP has been maintained very well and is in good operating condition. As mentioned previously, Norfolk's treated water meets current water quality standards and is constantly tested at the plant's laboratory. All equipment and structures are regularly inspected and maintained, and records are well kept. With that said, the City is initiating improvements in some areas of the facility and other improvements are scheduled during the Study Period. These projects were authorized either under previously approved CIPs or are included in the current planned CIP for the Study Period (Table 1, Line 12).

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*Low-lift Pumping Station* – The low-lift pumping station pumps chlorinated filtered water from the gravity filters to the on-site clearwells/storage tanks. There are five pumps being replaced with a sixth pump added for redundancy. Additionally, the HVAC system within the pump station and two gravity filters are also scheduled to be rehabilitated. The cost for this project will be approximately \$2.2 million as a construction contract has already been recently negotiated.

*High Service Pumping Station Room* – The high service pumps in High Pressure Pump Station No. 1 are considered “trim” pumps to help meet periodic demand swings, exclusively at night when flows are relatively low. Due to the variability in Water System demands, they are operated using variable frequency drive (“VFD”) motors to more efficiently pump varying amounts of treated water. Operators at Moores Bridges WTP have noted that the VFDs seem to produce higher than normal amounts of heat during operation. As such, there are planned improvements to the ventilation system in the pump station to minimize the heat build-up from the VFDs. An estimated budget of approximately \$1.2 million has been approved in a previous CIP.

*Sedimentation Basins 7 and 8 Upgrades* – Norfolk has already replaced the drive motors for the flocculators for these two basins. Additional plans for this project include replacing the flocculators and baffles, as well as replacement of the sludge removal mechanisms in each basin. Furthermore, structural repairs will be completed to improve the integrity of the basin walls. An estimated budget of \$2.5 million has been approved in a previous CIP.

*Tank Coating/Repairs* – These repairs will provide for maintenance coating of the interior and exterior of the treated water storage tanks at Moores Bridges. An estimated budget of \$300,000 has been approved in a previous CIP.

*Sedimentation Basins 2 through 6 Upgrades* – These upgrades will provide for new sludge removal systems for all five trains. An estimated budget of \$2.8 million has been approved in a previous CIP.

*Filter Upgrades* – These upgrades will provide for the replacement of support gravel with new media retention caps and new media in all filters. This project also includes regrouting of the underdrains, where necessary. An estimated budget of \$2.9 million has been approved in a previous CIP.

*Centrifuge* – The current system uses plate presses to dewater sludge from the various treatment processes. These presses are old and worn, and have become inefficient. Therefore, Norfolk is replacing both of the plate presses with centrifuges. The current CIP includes an estimated budget of \$5.5 million for this project in FY 2012 (Table 1, Line 12).

*Lab Equipment* – Some new laboratory analytical equipment is required to replace aging and outdated analytical equipment. The current CIP includes an estimated budget of \$150,000 for this equipment in FY 2011 (Table 1, Line 10).

*Water System Security/Vulnerability Improvements* – Due to the completion of the City’s Vulnerability Assessment and in response to world-wide terrorism threats, the City has budgeted \$300,000 in FY 2012 in the current CIP for enhanced security measures at Moores Bridges WTP as well as within the remainder of the Water System (Table 1, Line 13).

### 2.2.2.2 37<sup>th</sup> Street Water Treatment Plant

The 37<sup>th</sup> Street WTP was initially placed in service in 1922, and extensively renovated and expanded in 1942. The plant has a rated treatment capacity of 28.0 mgd. Raw water is supplied to the plant by two 36-inch pipelines from the Western Reservoir System. The plant is operated at a relatively constant production rate,

## 2.0 ENGINEERING ANALYSIS

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and, according to the available water quality data, the facility produces drinking water well within all regulatory requirements.

The 37<sup>th</sup> Street WTP has a conventional treatment process consisting of coagulation, flocculation, sedimentation, filtration and disinfection. Recent renovations to the flocculation and sedimentation basins include concrete repairs and new flocculation and sludge collection equipment, as well as a new chemical feed facility and administration facilities (Phase I of the 37<sup>th</sup> Street WTP Upgrade Project). As part of these improvements, a sodium hypochlorite storage and feed system was installed for purposes of disinfection and reduction of potential safety hazards associated with handling chlorine gas in residential areas. Also, a sulfuric acid feed system was installed for raw water alkalinity adjustments. It should be noted that the shotcrete/resurfacing of the sedimentation basins and installation of the solids collection equipment (Trac-Vac™) and solids thickening equipment occurred in 1991.

A facility to handle water treatment waste solids has been constructed at the 37<sup>th</sup> Street WTP. This facility consists of sludge receiving basins wet well and process transfer pumps, a polymer conditioning system, three rotary drum sludge thickeners, and a post-filtrate treatment system. The thickened solids are pumped through dedicated pipelines to the Virginia Initiative Plant, a nearby wastewater treatment facility owned by the Hampton Roads Sanitation District (“HRSD”), for incineration. The filtrate is re-treated by flocculation and sedimentation processes prior to being discharged to the HRSD sanitary sewer system.

One of the original design features of the 37<sup>th</sup> Street WTP has the treated water clearwells located directly below the sedimentation basins. Minor contamination of the treated water could occur if the sedimentation basins should leak, and the current configuration would likely not meet with Virginia Department of Health approval for new plant construction today. As part of the City’s Phased Planning Approach, the clearwells are scheduled to be converted to post-settling storage prior to filtration during Phase III of the plant upgrades, which are described below.

Due to age and condition of the 37<sup>th</sup> Street WTP, many of its processes require additional repair and replacement. As such, the City has initiated Phases II and III of the 37<sup>th</sup> Street WTP Upgrade Project. Construction bids for Phase II were opened recently at a price of \$8.2 million. The funds for this project were approved in a previous CIP. Major components of the Phase II work include significant structural repair of the concrete sedimentation basins, installation of new ferric coagulant storage and feed equipment, replacement of the solids collection system, lead paint abatement, installation of an additional backup emergency generator and construction of a surge control system for the raw water pipelines. Phase III will include new deep-bed gravity filters with granular activated carbon, an intermediate pump station and conversion of existing clearwells to post-sedimentation storage, replacement of the rapid mix facilities and miscellaneous upgrades to other treatment facilities. A budget of \$22.5 million has been included in FY 2011 CIP for Phase III improvements, shown on Line 6 of Table 1. Upon completion of the Phase III improvements, the primary 37<sup>th</sup> Street WTP treatment process should be in new or, at a minimum, very good condition.

### 2.2.3 Water Distribution and Storage Facilities

During the past ten years, the largest peak usage of the Water System occurred in FY 2007 which recorded maximum day, Water System-wide usage of 86.497 mgd and average day usage of 66.013 mgd. In FY 2010, peak day water usage has been about 79.913 mgd, and average day is about 62.679 mgd.

To effectively distribute the treated water to its customers, Norfolk’s Retail Service area distribution system includes two ground level storage tanks with pump stations, two elevated water storage tanks, and approximately 951 miles of water pipelines ranging in size from 2 to 60 inches. According to City records, there are 17,109 water valves and 4,449 hydrants in the distribution system. The Retail Service distribution

## 2.0 ENGINEERING ANALYSIS

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system's storage tanks and pump stations are generally in good condition according to City staff. However, a recent settling event of the foundation slab at the Little Creek ground storage tank caused a number of leaks in the bottom of the tank. According to City staff, the City repaired a number of the leaks, and further investigation of this foundation and likely subsequent improvements will be required. In addition, the pumps at both booster pumping stations were recently rehabilitated and are in good condition, but the generator at the Little Creek Pump Station does not work and will need to be replaced if the City chooses to provide back-up power at this facility. At this time, treated water can be delivered in this area without the Little Creek Pump Station and, as such, the City has no immediate plans to replace this generator.

Finally, according to City staff, projects are underway to repaint the two elevated water tanks and add a pump station at each elevated storage tank to improve water quality in the system. At the current time, the tanks have already been repainted and the pump stations are under construction.

The City operates a centralized Water Distribution Maintenance Facility located at Ballentine Boulevard. This facility contains administrative offices and records storage; a parts and materials storehouse; a pipe, valve and hydrant storage yard; a meter and hydrant repair shop; and equipment storage facilities for work crews.

Generally, the City's distribution system repair and replacement program is both proactive and reactive. The City maintains an appropriate budget for emergency repairs that arise through the year, but the majority of the distribution system improvements are associated with the Long-Term Control Plan developed for the sewer system. Starting in 2004, as part of a Consent Order, the City began a 15 to 20 year program to repair, rehabilitate, and/or replace much of its critical sewer system infrastructure. As improvements to the sewer system are implemented throughout the City, the water lines in the same service area are also replaced. As a result, the majority of the Retail water line replacement work is proactive as it coincides with sewer improvements that are part of the City's Long-Term Control Plan.

According to City staff, the Retail distribution network (i.e., pipes smaller than 12-inches in diameter) is in adequate condition. Norfolk's capital program contains distribution system projects to help address identified deficiencies. Furthermore, as the Long-Term Control Plan is implemented for the sewer system, the Retail distribution system will likely become much more reliable.

Similarly, according to City staff, considering the age of many of its pipes, Norfolk's treated water transmission mains (i.e., pipes 12-inches and larger) are in good operating condition. As noted previously, a portion of the approximate \$91.0 million budget allocated for transmission and distribution improvements in the CIP will be utilized on the Retail Service component of the Water System. However, much of this work will be prioritized by the City based on the activities under the Long-Term Control Plan.

### **2.3 FY 2011 Through FY 2015 Planned Improvements**

This section summarizes planned improvements identified in Norfolk's FY 2011 through FY 2015 CIP, and totals over \$125 million as shown in Table 1, Line 17. The CIP represents the maximum amount approved or planned for each new or ongoing project. The capital expenditure estimates provided by Norfolk contain reasonable allowances for construction, legal, and administrative costs for the identified projects.



## 2.0 ENGINEERING ANALYSIS

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**Table 1**  
**Capital Improvement Program**  
**Fiscal Year Ending June 30,**

Line No.	Description	Approved 2010	Approved 2011 <sup>(1)</sup>	Planned			Total
		\$	\$	\$	\$	\$	\$
<b>Water Projects</b>							
1	Rehabilitate Nottoway River Pump Station	4,500,000	-	-	-	-	-
2	Upgrade Lake Prince Pump Station	1,000,000	-	-	-	-	-
3	Install Aerator - Lake Prince	600,000	-	-	-	-	-
4	Install New Aerators - Western Branch	350,000	-	-	-	-	-
5	Upgrade Western Branch Pump Station	3,000,000	-	-	-	-	-
6	Design & Construct 37 <sup>th</sup> Street Plant	-	22,500,000	-	-	-	22,500,000
7	Replace or Rehabilitate Water Pipelines	4,400,000	18,200,000	18,200,000	18,200,000	18,200,000	91,000,000
8	Rehabilitate Blackwater River Pump Station	-	4,500,000	-	-	-	4,500,000
9	Upgrade Deep Wells	-	1,000,000	-	-	-	1,000,000
10	Replace Lab Equipment - Moores Bridges Water Treatment Plant	-	150,000	-	-	-	150,000
11	Remove Trees on Lake Smith Dam	-	150,000	-	-	-	150,000
12	Upgrade Moores Bridges Water Treatment Plant	5,000,000	-	5,500,000	-	-	5,500,000
13	Implement Security/Vulnerability	-	-	300,000	-	-	300,000
14	Replace Water Meters	-	-	100,000	-	-	100,000
15	System - Wide Reservoir Rehabilitation	-	-	-	150,000	-	150,000
16	Tree Removal on the Lake Taylor Dam	-	-	-	75,000	-	75,000
17	<b>Total Approved Capital Program</b>	<b>18,850,000</b>	<b>46,500,000</b>	<b>24,100,000</b>	<b>18,425,000</b>	<b>18,200,000</b>	<b>125,425,000</b>

<sup>(1)</sup> 2011 Projects authorized by City Council as part of the FY 2011 CIP budget process.

### 2.4 Summary

Norfolk's Water System, as it exists, can be expected to provide adequate capacity to meet demand throughout the Study Period. Norfolk's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations. The Department of Utilities is actively planning and implementing improvements to Norfolk's water treatment facilities to meet current regulations and proposed amendments to the 1986 Safe Drinking Water Act. The City has initiated projects to upgrade dated facilities, provide redundancy and for the handling and disposal of residuals from the water treatment plants in an environmentally sound manner. The CIP expenditure estimates contained in this Report reflect allowances to reasonably recognize costs of meeting the current and anticipated near-term regulatory agency rules and regulations.

The Department's management strategies relating to facilities maintenance, with emphasis on preventive and predictive maintenance practices, continues to grow; and computer-based maintenance management systems have been or are being implemented. Current staffing levels appear to be adequate to maintain and operate the facilities. Operator training appears to be sufficient at all levels.

The CIP for FY 2011 through FY 2015, with project costs totaling an estimated \$125,425,000, adequately addresses necessary Water System facility renovations and upgrades. The program sufficiently addresses current and proposed Federal and State regulations regarding safe drinking water, dam safety, and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that will appear to impact the improvements planned in the CIP.

Overall, Norfolk's Water System is well-managed; is in good operating condition; and, coupled with the CIP is capable of providing safe and reliable drinking water to its customers for the foreseeable future.

## 3.0 FINANCIAL REQUIREMENTS

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### 3.0 FINANCIAL REQUIREMENTS

#### **3.1 Revenues and Operating Expenses**

Observations regarding historical trends and projections are based upon analysis of five years of history (FY 2006 through FY 2010) in conjunction with interviews and review of Water Utility operational data and judgment based on experience working with similar water utilities.

##### **3.1.1 Metered Accounts**

Norfolk provides treated water service to customer groups or classes, including service on a retail basis within the City limits and on a wholesale basis to the U.S. Navy and to Virginia Beach and Chesapeake. Retail Service is provided through metered connections to the transmission and distribution system within Norfolk's City limits. Wholesale Service is provided through master metered connections to the transmission system.

Norfolk also provides raw water service on a wholesale basis to the U.S. Navy, Chesapeake and the WTW. Raw water service is provided through master metered connections to the raw water transmission system.

###### **3.1.1.1 Retail**

Metered accounts for Norfolk Retail Service have increased from 64,321 accounts in FY 2006 to 66,140 accounts in FY 2010, or about 0.7 percent per year. Norfolk is a mature city which is essentially fully developed. However, the renovations of properties in the downtown area and other redevelopment initiatives throughout the City have produced a slight increase in Norfolk's Retail Service accounts. Retail metered accounts are projected to remain constant at the FY 2010 level of 66,140 accounts through FY 2015.

Norfolk's fire protection accounts have increased from 711 in FY 2006 to 793 in FY 2010, or about 2.8 percent per year. Fire protection accounts are projected to remain constant at the FY 2010 level of 793 accounts through FY 2015.

###### **3.1.1.2 Virginia Beach**

Historical records indicate Virginia Beach accounts have remained stable at 31 metered accounts from FY 2006 through FY 2010. Virginia Beach's metered accounts are projected to remain at 31 accounts through FY 2015.

The City treats Virginia Beach's water under a Water Services Contract which expires on June 30, 2030. Under this Contract, the City treats, stores, pumps and transports treated water to the metered points of delivery for the Virginia Beach distribution system. See Appendix E for further details on the Contract with Virginia Beach.

###### **3.1.1.3 U.S. Navy**

The Norfolk area has the largest concentration of naval installations in the world, with headquarters for the Atlantic Fleet, the Norfolk Naval Base, and other major naval commands. The naval presence in the Norfolk area has a significant impact on the local economy and consequently on the revenues and expenditures of local government. Historically, the net effect of the naval presence, attributable to the large local naval payroll and substantial expenditures for goods and services, has been to stabilize the economy in the Norfolk area.

The U.S. Navy metered accounts increased from 60 accounts in FY 2006 to 62 accounts in FY 2010. The Navy's metered accounts are projected to remain constant at 62 accounts through FY 2015.

The City has been providing treated water to the U.S. Navy since 1981 and renewed the contract in 2008 to provide wholesale service to the U.S. Navy on a three-year term, expiring June 30, 2011. Short-term contracts

## 3.0 FINANCIAL REQUIREMENTS

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are preferred by the U.S. Navy, which represents the oldest wholesale water customer of the Water System. See Appendix E for further details on the Contract with the U.S. Navy.

### 3.1.1.4 Chesapeake

Norfolk provides both treated water and raw water services to Chesapeake.

Chesapeake treated water metered accounts have remained steady at 31 accounts from FY 2006 to FY 2010. Chesapeake's treated water metered accounts are anticipated to remain constant at 31 accounts through FY 2015. Treated water sold to Chesapeake is not subject to a contract.

Chesapeake raw water service is currently provided through one master meter site. No additional meter sites are anticipated for the raw water service during the Study Period.

The City entered into a Raw Water Sales Contract with Chesapeake in December 2002 which expires on December 31, 2042. The City began providing raw water to Chesapeake on July 1, 2006. The City agreed to provide a target amount of 7.0 mgd of raw water to Chesapeake. The target amount can be adjusted based on the request of Chesapeake and agreed upon by the City. The City may reduce the target amount if one of the following conditions occurs:

- Decrease Surplus Water Supply;
- Facility or Equipment Failure;
- Drought;
- Contamination; or,
- Force Majeure.

The City may also terminate the Contract if Chesapeake doesn't pay in full within 60 days from the date of a receipt for payment; Chesapeake willfully breaches the Contract which significantly impacts the operation of the Contract; or construction of the Raw Water Delivery System is not complete within 5 years of the start-up date, July 1, 2006. Chesapeake may terminate the contract if the City willfully breaches any term of the Contract or the City delivers less than the difference of the target amount less 0.75 mgd for more than 6 consecutive billing periods.

Under the terms of this Contract, the City also agrees to continue selling no less than 2.0 mgd of treated water for the length of the Raw Water Sales Contract.

### 3.1.1.5 Western Tidewater Water Authority

During FY 2009, Norfolk entered into a contract to provide raw water services to WTTA, which includes the City of Suffolk and Isle of Wight County. Raw water sales to WTTA are anticipated to be provided at one master meter site, with delivery of water anticipated to begin in FY 2014. No additional raw water service sites are anticipated during the Study Period.

The Contract for Services with WTTA is a take or pay agreement with a required minimum volume purchase and is set to expire in June 2048. For the purposes of this analysis, WTTA was considered an account beginning in FY 2009, as they began paying an annual reservation fee in anticipation of water service according to the terms of the Contract.

### 3.1.1.6 Raw Water Accounts

The City provides emergency raw water to Portsmouth and to Navy-Craney Island, each with one master meter. No additional accounts are forecasted during the Study Period.

In 2002, the City entered into an emergency Raw Water Service Contract with Portsmouth. The "Start-up Date" for this Contract was September 11, 2007.



## 3.0 FINANCIAL REQUIREMENTS

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### 3.1.1.7 Historical and Projected Accounts

Table 2 presents the historical and projected water metered accounts by each customer class. As noted on Line 9, total metered water accounts are projected to remain stable during the Study Period.

### 3.0 FINANCIAL REQUIREMENTS

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**Table 2**  
**Historical and Projected Water Metered Accounts By Customer Class**  
**Fiscal Year Ending June 30,**

Line No.	Description	Historical					Projected				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	<b>Water</b>										
1	Norfolk Retail	64,321	64,858	65,393	65,550	66,140	66,140	66,140	66,140	66,140	66,140
2	Norfolk Fire Protection	711	744	748	778	793	793	793	793	793	793
3	Virginia Beach	31	31	31	31	31	31	31	31	31	31
4	U.S. Navy	60	60	62	62	62	62	62	62	62	62
5	Chesapeake - Treated Water	31	31	31	31	31	31	31	31	31	31
6	Chesapeake - Raw Water	1	1	1	1	1	1	1	1	1	1
7	Western Tidewater Water Authority	N/A	N/A	N/A	1	1	1	1	1	1	1
8	Raw Water <sup>(1)</sup>	2	2	2	2	2	2	2	2	2	2
9	<b>Total</b>	<b>65,157</b>	<b>65,727</b>	<b>66,268</b>	<b>66,456</b>	<b>67,061</b>	<b>67,061</b>	<b>67,061</b>	<b>67,061</b>	<b>67,061</b>	<b>67,061</b>

<sup>(1)</sup> Includes Portsmouth emergency raw water and Navy-Craney Island raw water.

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### 3.1.2 Water Sales Volumes

#### 3.1.2.1 Retail

Water sales for Norfolk Retail Service declined from about 9.5 million hundred cubic feet (“Ccf”) in FY 2006 to approximately 8.6 million Ccf in FY 2010, or about 2.5 percent per year. However, the majority of the decreased consumption occurred in FY 2009, and is associated primarily with the closure of the Norfolk Ford Motor Company Plant. While this site may be redeveloped, the water use of the property may be different, and therefore customers’ overall usage is anticipated to remain constant at FY 2010 levels of approximately 8.6 million Ccf.

#### 3.1.2.2 Virginia Beach

During Fiscal Years 2006, 2007 and 2008 the water sales to Virginia Beach averaged approximately 17.4 million Ccf. In FY 2009 the annual demand decreased to 16.5 million Ccf, followed by 16.3 million Ccf in FY 2010. It is believed that the recent decrease in demand reflects the current economic downturn, as rainfall levels were relatively normal. The rate that demand has declined has also slowed, from 5.0 percent in FY 2009 to 1.3 percent in FY 2010. Virginia Beach has cited relatively high vacancy rates as a contributor to declining demand. Additionally, Virginia Beach has potential for further development, particularly in the Courthouse/Sandbridge area and the Kempsville and Holland areas. Accordingly, Virginia Beach’s usage is projected to increase about 1.3 percent annually to an estimated 17.4 million Ccf in FY 2015.

#### 3.1.2.3 U.S. Navy

The decline in U.S. Navy treated water usage, from 2.5 million Ccf in FY 2006 to 2.0 million Ccf in FY 2010, or about 6.1 percent per year, is primarily due to the Navy’s ongoing water conservation efforts. However, FY 2009 and FY 2010 water usage statistics indicate that the rate of decline is slowing. While it is anticipated that the U.S. Navy will continue to pursue water conservation measures, it is expected that the long-term rate of decline in water use will subside compared to results in FY 2006 through FY 2010. Therefore the U.S. Navy’s usage is projected to remain constant at FY 2010 levels throughout the Study Period.

#### 3.1.2.4 Chesapeake

Norfolk provides both treated water and raw water services to Chesapeake.

Treated water sales to Chesapeake have increased from about 1.4 million Ccf in FY 2006 to about 1.6 million Ccf in FY 2010, or about 3.0 percent per year. Chesapeake’s treated water usage is anticipated to continue to increase at 1.5 percent per year, to 1.7 million Ccf in FY 2015.

Raw water sales to Chesapeake have remained stable at nearly 3.5 million Ccf, just over the 7.0 mgd minimum (about 3.4 million Ccf) requirement of the Raw Water Sales Contract. Chesapeake’s raw water usage is anticipated to remain consistent with FY 2010 levels of nearly 3.5 million Ccf, meeting the 7.0 mgd minimum contract demand.

#### 3.1.2.5 Western Tidewater Water Authority

Norfolk has contracted with the WTTWA to provide raw water services beginning in FY 2014. Initial quantities are expected to be about 1.5 million Ccf per year, based on contractual minimums of 3.0 mgd (about 1.46 million Ccf) through FY 2015. Starting in FY 2016, the minimum level of service is projected to increase by about 1.0 mgd every two years, reaching 15.0 mgd by FY 2038.

#### 3.1.2.6 Raw Water Accounts

Historical raw water sales to the Navy-Craney Island and Portsmouth are negligible. For planning purposes the projected sales volumes exclude raw water sales to Navy-Craney Island and Portsmouth.

## 3.0 FINANCIAL REQUIREMENTS

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### 3.1.2.7 Historical and Projected Water Usage

Table 3 presents the historical and projected water usage by each customer class. Total water use, regardless of supply source, is projected to increase from 31.9 million Ccf in FY 2010 to 34.6 million Ccf in FY 2015, primarily as a result of the future raw water sales to the WTWA. As noted previously, water use dropped nearly 5 percent in FY 2009 from FY 2008, which is related to the closure of the Norfolk Ford Motor Company Plant, and is also likely to be negatively influenced by the prevailing economic conditions since rainfall amounts were within range of normal averages. Billed water use in FY 2010 indicates the rate of decline has slowed substantially from FY 2009. Projected water sales from FY 2011 through FY 2013 are expected to increase slightly, reflecting a modest increase in projected treated water sales to Chesapeake and Virginia Beach. An additional increase in water use is projected to occur beginning in FY 2014 as the 3.0 mgd raw water flows associated with the WTWA begin.

### 3.0 FINANCIAL REQUIREMENTS

CITY OF NORFOLK, VIRGINIA  
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**Table 3**  
**Historical and Projected Usage By Customer Class**  
**Fiscal Year Ending June 30,**

Line No.	Description	Historical					Projected				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
		Ccf	Ccf	Ccf	Ccf	Ccf	Ccf	Ccf	Ccf	Ccf	Ccf
<b>Water</b>											
1	Norfolk	9,506,395	9,205,714	9,440,582	8,860,213	8,599,532	8,600,000	8,600,000	8,600,000	8,600,000	8,600,000
2	Virginia Beach	17,316,575	17,499,324	17,379,445	16,502,799	16,295,615	16,737,000	16,932,000	17,176,000	17,274,000	17,372,000
3	U.S. Navy	2,541,748	2,304,150	2,171,512	2,053,288	1,977,195	1,977,000	1,977,000	1,977,000	1,977,000	1,977,000
4	Chesapeake - Treated Water	1,400,137	1,155,623	1,535,916	1,580,157	1,577,302	1,578,000	1,601,000	1,625,000	1,650,000	1,675,000
5	Chesapeake - Raw Water	995,135	3,455,331	3,533,556	3,470,989	3,476,738	3,477,000	3,477,000	3,477,000	3,477,000	3,477,000
6	Western Tidewater Water Authority	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,464,000	1,464,000
7	<b>Total</b>	<b>31,759,990</b>	<b>33,620,142</b>	<b>34,061,011</b>	<b>32,467,446</b>	<b>31,926,382</b>	<b>32,369,000</b>	<b>32,587,000</b>	<b>32,855,000</b>	<b>34,442,000</b>	<b>34,565,000</b>
8	<b>% Change</b>		<b>5.86%</b>	<b>1.31%</b>	<b>-4.68%</b>	<b>-1.67%</b>	<b>1.39%</b>	<b>0.67%</b>	<b>0.82%</b>	<b>4.83%</b>	<b>0.36%</b>

## 3.0 FINANCIAL REQUIREMENTS

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CITY OF NORFOLK, VIRGINIA  
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### 3.1.3 Water Revenue

#### 3.1.3.1 Retail

Norfolk's Retail Rate structure consists of a monthly water service charge and a uniform commodity rate. Effective FY 2011, which began July 1, 2010, the monthly Water Account Service Charge is \$1.00 and the Water Rate is \$3.87 per Ccf.

Projected revenues under existing rates for Retail Service are based on the adopted rates for FY 2011, projected number of metered Retail water accounts and the projected annual usage.

Norfolk also charges for fire protection, with rates that vary by the size of connection. This revenue is approximately \$445,000 in FY 2010 and is projected to remain at this level through FY 2015.

#### 3.1.3.2 U.S. Navy

In January 2008, Norfolk and the U.S. Navy agreed to a three-year renewal of the existing Water Services Contract which established the U.S. Navy water rates as the Retail Rates plus ten percent. Effective July 1, 2010, the U.S. Navy's FY 2011 water rate is \$4.26 per Ccf.

Projected revenues under existing rates for the U.S. Navy are based on the adopted rates for FY 2011, and the projected annual usage.

#### 3.1.3.3 Virginia Beach

The water charges to Virginia Beach are based on the provisions of the Water Services Contract. The Water Services Contract (the "Contract") established a three part charge consisting of:

- **Fixed Capacity Charge** to recover annual return on allocated rate base and a proportional share of annual depreciation expense. The annual total is to be paid to Norfolk in twelve equal monthly payments.
- **Demand Charge** to recover the allocated annual share of demand-related, relatively fixed operation and maintenance ("O&M") expenses. The annual total is to be paid to Norfolk by Virginia Beach in twelve equal monthly payments.
- **Commodity Charge** to recover variable operating costs associated with the production and delivery of treated water. The charge is to be applied to monthly metered water usage.

Virginia Beach rate adjustments are formula driven under the Contract. For example, Norfolk projects Virginia Beach rates for two years based on projected costs and demands using the methodology established by the Contract. Before the end of the second year of each two-year rate period, Norfolk will project rates for the subsequent two-year period. Within six months of the close of the recently completed two-year rate period, Norfolk will recalculate annual rate revenues for that period using the Contract methodology, the Water System's operations and audited costs. The cumulative differences in invoiced and actual annual rate revenues for the recently completed two-year period will be applied to the second year water service billing. During that second year of projected rates, one-twelfth of the total "true-up" results (either as an addition or subtraction) is applied to each monthly invoiced amount which has been computed using the then current projected rates in effect and actual Virginia Beach water usage. This cycle of biennial projection and "true-up" of Virginia Beach rates will continue for the life of the Contract.

Projected revenues under existing rates for Virginia Beach are based on rates and terms of the Contract. Such revenues recognize adopted rates and charges for FY 2011 and projected annual usage for the Study Period. It also assumes that the FY 2011 through FY 2015 estimated revenues are generally commensurate with projected costs, and therefore no additional true-up adjustments are forecasted during the Study Period.

## 3.0 FINANCIAL REQUIREMENTS

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CITY OF NORFOLK, VIRGINIA  
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### 3.1.3.4 Chesapeake

The Chesapeake treated water rate is established by City ordinance. Effective July 1, 2010, the FY 2011 Chesapeake treated water rate is \$3.97 per Ccf.

The Chesapeake raw water rate is established by the Raw Water Sales Contract initiated in FY 2003. Under the terms of the Contract, the water rate is adjusted annually based upon the greater of the current rate or the current rate modified to reflect the Consumer Price Index (“CPI”) adjustment factor. Effective July 1, 2010, the FY 2011 Chesapeake raw water rate is \$0.86 per Ccf.

Projected revenues under existing rates for Chesapeake are based on the adopted rates for FY 2011, and the projected annual treated water and raw water usage.

### 3.1.3.5 Western Tidewater Water Authority

The WTWA raw water rate is established by the Raw Water Sales Agreement. The charges under the Agreement executed in FY 2009 consist of a reservation charge and a commodity charge. Until FY 2014, charges for service are limited to a reservation fee in anticipation of water delivery. Upon delivery of water in FY 2014, charges will include both a monthly commodity charge, as well as a reservation charge that acknowledges the WTWA’s ability to obtain additional quantities of water in future periods. The reservation charge is based on a schedule of quantities that generally declines over time as the minimum amount of purchased water increases. Volume rates under the Agreement are increased annually in accordance with CPI increases. Effective July 1, 2010, the FY 2011 raw water rate is \$0.86 per Ccf.

Projected revenues under existing rates for the WTWA are based on the adopted rates for FY 2011, the reserved raw water contract demands, and the projected raw water usage.

### 3.1.3.6 Raw Water Accounts

In FY 2008, the City received \$1.3 million from Portsmouth from emergency raw water sales. Since raw water is provided on an emergency basis, no revenue is projected during the remainder of the Study Period. Historical revenue associated with the raw water sales to the Navy-Craney Island is negligible. For planning purposes no revenue from raw water sales to Navy-Craney Island is projected during the Study Period.

### 3.1.3.7 Historical and Projected Water Sales Revenues

Table 4 shows historical and projected water sales revenues under existing rates during the period FY 2006 through FY 2015. These revenue projections were determined by applying the projection of customer metered accounts from Table 2 and usage by customer class from Table 3 to the respective schedule of existing treated and raw water rates. The City completes a biennial rate review with Virginia Beach based on estimated costs. As shown on Line 15 of Table 4, some level of adjustment or “true-up” has resulted from these reviews. For projection purposes, we have assumed that projected costs are reasonable; therefore no future “true-ups” are projected.

Historical and projected Water Utility Other Operating Revenues are shown in Table 5 for FY 2006 through FY 2015. Sources of Other Operating Revenue include Inspection Fees, Developer Contributions, Account Set-Up Fees, Meter Tests and Penalties, Finance Charges and Miscellaneous Fees. This revenue stream overall has been somewhat erratic due to changes in items such as gain/loss on sale of assets (Line 3); bad debt recovery (Line 6); other contributions from developers (Line 13); and disaster relief aid (Line 15) that was related to FEMA reimbursement for Hurricane Isabel which occurred in 2003. Excluding these items, other revenue has ranged from \$2.1 million to \$2.5 million in FY 2006 through FY 2010. Based on a review of historical levels and anticipated levels of development and growth, Other Operating Revenue is projected to remain stable at \$2.45 million per year during the Study Period.

### 3.0 FINANCIAL REQUIREMENTS

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CITY OF NORFOLK, VIRGINIA  
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Non-operating revenue consists of interest earnings on available operating and certain restricted funds. Interest Income projections are based on an interest rate of 0.5 percent in FY 2011 times the average of the beginning and ending year balances in the Operating Fund, Capital Projects Fund, Rate Stabilization Fund, General Reserve Fund and the Repair and Replacement Reserve Fund. Each year thereafter, the interest rate is projected to increase by 0.25 percent, achieving a projected interest rate of 1.5 percent in FY 2015. Study Period projections are included subsequently in Table 8 and Table 10.



### 3.0 FINANCIAL REQUIREMENTS

CITY OF NORFOLK, VIRGINIA  
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**Table 4**  
**Historical and Projected Water Sales Revenue Under Existing Rates**  
**Fiscal Year Ending June 30,**

Line No.	Description	Historical					Projected				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
<b>Fixed Charges</b>											
1	Norfolk Retail	771,828	778,272	786,216	789,580	782,944	794,000	794,000	794,000	794,000	794,000
2	Norfolk Fire Protection	315,000	315,000	419,134	447,551	444,677	445,000	445,000	445,000	445,000	445,000
3	Total Fixed Charges	1,086,828	1,093,272	1,205,350	1,237,131	1,227,621	1,239,000	1,239,000	1,239,000	1,239,000	1,239,000
<b>Usage Charges</b>											
4	Norfolk Retail	30,990,848	31,023,256	33,854,717	32,057,567	32,173,283	33,282,000	33,282,000	33,282,000	33,282,000	33,282,000
5	U.S. Navy	9,099,458	8,548,397	8,318,612	8,122,460	8,107,730	8,422,000	8,422,000	8,422,000	8,422,000	8,422,000
6	Chesapeake - Treated Water	4,676,458	3,986,899	5,460,656	5,860,288	6,048,208	6,265,000	6,356,000	6,451,000	6,551,000	6,650,000
7	Chesapeake - Raw Water	766,254	2,729,711	2,686,913	2,884,280	2,992,142	2,990,000	2,990,000	2,990,000	2,990,000	2,990,000
8	Western Tidewater Water Authority <sup>(1)</sup>	N/A	N/A	N/A	N/A	2,474,700	1,259,000	1,259,000	1,259,000	1,259,000	1,259,000
9	WTWA - Reservation Fee <sup>(2)</sup>	N/A	N/A	N/A	N/A	N/A	504,000	1,007,000	1,007,000	1,007,000	1,007,000
10	Total Usage Charges	45,533,018	46,288,263	50,320,898	48,924,595	51,796,063	52,722,000	53,316,000	53,411,000	53,511,000	53,610,000
<b>Virginia Beach Revenue</b>											
<b>Annual Charges</b>											
11	Fixed Capacity Charge Revenue	15,725,000	15,630,000	15,114,000	15,273,000	14,907,000	14,698,000	14,698,000	14,698,000	14,698,000	14,698,000
12	Demand Charge Revenue	6,662,000	6,819,000	6,573,459	6,792,795	5,760,240	6,136,000	6,136,000	6,136,000	6,136,000	6,136,000
13	Commodity Charge Revenue	2,589,219	2,745,396	3,270,768	3,190,984	4,283,244	4,519,000	4,572,000	4,638,000	4,664,000	4,690,000
14	Revenue Before True-up	24,976,219	25,194,396	24,958,227	25,256,779	24,950,484	25,353,000	25,406,000	25,472,000	25,498,000	25,524,000
15	True-up <sup>(3)</sup>	798,000	-	(1,897,615)	-	1,929,766	-	-	-	-	-
16	Estimated Revenue After True-up	25,774,219	25,194,396	23,060,612	25,256,779	26,880,250	25,353,000	25,406,000	25,472,000	25,498,000	25,524,000
17	<b>Total Water Sales Revenue</b>	<b>72,394,065</b>	<b>72,575,931</b>	<b>74,586,860</b>	<b>75,418,505</b>	<b>79,903,934</b>	<b>79,314,000</b>	<b>79,961,000</b>	<b>80,122,000</b>	<b>80,248,000</b>	<b>80,373,000</b>
18	<b>% Change</b>	<b>-</b>	<b>0.25%</b>	<b>2.77%</b>	<b>1.12%</b>	<b>5.95%</b>	<b>-0.74%</b>	<b>0.82%</b>	<b>0.20%</b>	<b>0.16%</b>	<b>0.16%</b>

<sup>(1)</sup> 2010 Western Tidewater Water Authority includes billing for 2010 and retroactive charges for 2009 in the amount of \$1,215,037.

<sup>(2)</sup> Reflects additional reservation fee for 12 mgd beginning in FY 2011.

<sup>(3)</sup> Virginia Beach True-up.

### 3.0 FINANCIAL REQUIREMENTS

CITY OF NORFOLK, VIRGINIA  
SERIES 2010 REVENUE BOND FEASIBILITY ANALYSIS

**Table 5**  
**Historical and Projected Water Utility Other Operating Revenue**  
**Fiscal Year Ending June 30,**

Line No.	Description	Historical					Projected				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
	<b>Other Revenue</b>										
1	Fees-Cross Connection Inspection	10,695	22,675	18,975	19,275	16,050	29,400	29,400	29,400	29,400	29,400
2	Gain on Sale of Fixed Assets	-	-	-	55,888	-	-	-	-	-	-
3	Gain/Loss on Sale of Other Assets <sup>(1)</sup>	1,435,328	15,983	1,800	1,800	-	5,400	5,400	5,400	5,400	5,400
4	Sale of Materials & Supplies-Store	31,277	21,874	17,400	10,754	141,377	17,000	17,000	17,000	17,000	17,000
5	Revenue-Other Miscellaneous	3,843	11,466	15,144	12,470	10,437	5,000	5,000	5,000	5,000	5,000
6	Bad Debt Recovery	65,369	67,481	691	-	366,423	100,000	100,000	100,000	100,000	100,000
7	Fees-Account Set-Up	272,731	240,345	242,785	254,820	264,409	276,000	276,000	276,000	276,000	276,000
8	Fees-Miscellaneous	3,840	14,070	11,045	5,289	7,882	3,100	3,100	3,100	3,100	3,100
9	Meter Test & Penalties	136,777	116,392	14,295	111,085	122,595	141,000	141,000	141,000	141,000	141,000
10	Recovery Cost-Utilities	1,802,610	1,499,119	1,737,704	1,654,013	1,479,835	1,636,000	1,636,000	1,636,000	1,636,000	1,636,000
11	Finance Charges-Water Bills	204,011	87,933	17,867	-	-	85,600	85,600	85,600	85,600	85,600
12	Fees-Boat	40,569	37,509	40,623	60,839	24,247	28,000	28,000	28,000	28,000	28,000
13	Other Contributions	59,060	594,927	175,778	503,658	366,363	100,000	100,000	100,000	100,000	100,000
14	Fees-Tap	1,465	52,578	21,756	51,192	90,421	20,000	20,000	20,000	20,000	20,000
15	Disaster Relief Aid <sup>(2)</sup>	110,268	333,350	-	-	-	-	-	-	-	-
16	<b>Total Other Revenue</b>	<b>4,177,843</b>	<b>3,115,702</b>	<b>2,315,863</b>	<b>2,741,083</b>	<b>2,890,039</b>	<b>2,446,500</b>	<b>2,446,500</b>	<b>2,446,500</b>	<b>2,446,500</b>	<b>2,446,500</b>
17	<b>% Change</b>	<b>-</b>	<b>-25.42%</b>	<b>-25.67%</b>	<b>18.36%</b>	<b>5.43%</b>	<b>-15.35%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>

<sup>(1)</sup> Sold Lake Smith fishing station for \$1,406,000 in 2006 to Virginia Beach.

<sup>(2)</sup> Hurricane Isabel Reimbursement from FEMA.

## 3.0 FINANCIAL REQUIREMENTS

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CITY OF NORFOLK, VIRGINIA  
SERIES 2010 REVENUE BOND FEASIBILITY ANALYSIS

### 3.1.4 Operating Expenses

The Water Utility is responsible for the overall administration, engineering, construction, operation and maintenance of the Norfolk Water and Sewer Systems. Funding of the direct and indirect costs is provided through the City's Water Utility Enterprise Fund (the "Water Fund").

For the purposes of this Report, O&M expenses exclude payment in lieu of taxes ("PILOT"), and payment to the City's General Fund for the City's Return on Investment ("ROI").

Organizationally, the Water Utility is divided into the following seven Divisions:

- **Director's Office** provides the administration and management of the Water and Sewer Systems;
- **Accounting and Budget** provides the accounting, budgeting, and financial recordkeeping and reporting for the Water Fund;
- **Water Accounts** provides the Water and Sewer System customer billing, collections and customer service;
- **Water Quality** provides the Moores Bridges and 37<sup>th</sup> Street WTPs laboratory testing and regulatory agency reporting requirements;
- **Water Production** provides the operation and maintenance of the raw water pumping and transmission, water treatment and treated water storage and pumping facilities;
- **Engineering** provides for the planning, design and engineering management of the Water and Sewer Systems capital improvements; and
- **Water Distribution** provides for the operation and maintenance of the water transmission and distribution system facilities.

The Water Fund historical and projected O&M expenses are shown in Table 6 for FY 2006 through FY 2015. Historical O&M expenses are summarized from the Water Fund's documents supporting the City's audited financial statements, with the exception of FY 2010, which is based upon preliminary unaudited results for FY 2010.

### 3.0 FINANCIAL REQUIREMENTS

CITY OF NORFOLK, VIRGINIA  
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**Table 6**  
**Historical and Projected City of Norfolk Water Operation and Maintenance Expenditures**  
**Fiscal Year Ending June 30,**

Line No.	Description	Historical					Projected				
		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
		\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1	Salaries & Wages	11,475,137	11,763,810	11,899,572	12,678,236	12,799,484	12,800,000	13,120,000	13,448,000	13,784,000	14,129,000
2	Health & Benefits	858,784	974,035	1,220,574	1,294,580	1,485,398	1,634,000	1,797,000	1,977,000	2,175,000	2,393,000
3	Plant Operations	7,631,051	5,780,847	6,625,810	6,844,241	5,895,656	5,896,000	6,132,000	6,377,000	6,632,000	6,897,000
4	Chemicals	3,227,636	3,318,311	3,446,908	4,963,652	3,757,973	4,026,000	4,187,000	4,354,000	4,528,000	4,709,000
5	Provision for Bad Debts	155,116	52,634	710,185	419,459	301,294	341,000	353,000	365,000	378,000	391,000
6	Retirement Contribution	1,529,200	1,582,668	1,144,608	2,126,353	2,170,730	2,215,000	1,800,000	1,854,000	1,910,000	1,967,000
7	Other Post Employment Benefits	-	-	351,508	114,492	364,437	250,000	258,000	266,000	274,000	282,000
8	Administrative Expenses <sup>(1)</sup>	1,612,230	2,064,339	1,809,616	1,710,050	1,563,029	1,960,000	2,019,000	2,080,000	2,142,000	2,206,000
9	Other <sup>(2)</sup>	7,893,615	7,494,383	9,817,747	8,031,310	6,213,229	6,598,000	6,862,000	7,136,000	7,421,000	7,718,000
10	<b>Total O&amp;M</b>	<b>34,382,769</b>	<b>33,031,027</b>	<b>37,026,528</b>	<b>38,182,373</b>	<b>34,551,230</b>	<b>35,720,000</b>	<b>36,528,000</b>	<b>37,857,000</b>	<b>39,244,000</b>	<b>40,692,000</b>
11	<b>% Change</b>	<b>-</b>	<b>-3.9%</b>	<b>12.1%</b>	<b>3.1%</b>	<b>-9.5%</b>	<b>3.4%</b>	<b>2.3%</b>	<b>3.6%</b>	<b>3.7%</b>	<b>3.7%</b>

<sup>(1)</sup> Allocation for shared services and storehouse cost.

<sup>(2)</sup> Includes contractual services, legal fees, billing system costs, meter reading and design costs.

### 3.0 FINANCIAL REQUIREMENTS

CITY OF NORFOLK, VIRGINIA  
SERIES 2010 REVENUE BOND FEASIBILITY ANALYSIS

Projected O&M expenses for FY 2011 are generally less than prior years as a result of efforts by the City to continue to minimize costs in a difficult economic environment. Assumptions used in the development of FY 2011 O&M expenses are discussed more fully below. These costs are subsequently trended into the future using inflation estimates. The following inflation estimates were used to projected O&M expenses:

Description	Inflation
Personnel Services	2.50%
Health & Benefits	10.00%
Plant Operations	4.00%
Administrative	3.00%
Other	4.00%
Excludes ROI and PILOT	

These inflation estimates apply to all projections for FY 2012 through FY 2015, except the forecast for retirement contributions. Historically retirement contribution levels have fluctuated based on actuarial analysis performed for the City. Going forward, retirement contributions are anticipated to increase at two percent in FY 2011, resulting in a projection of approximately \$2.2 million. However, in FY 2012, they are estimated to decline to \$1.8 million as the level of current contributions is anticipated to sufficiently fund the retirement account by FY 2012, allowing for a decrease in funding to a level more commensurate with historical amounts from FY 2006 and FY 2007. Beyond FY 2012, retirement contributions are anticipated to increase 3 percent annually.

Salaries and Wages costs for FY 2011, shown on Line 1 of Table 6, are estimated to be comparable to FY 2010 levels, reflecting the decision not to implement a salary increase for FY 2011. However, an inflation rate of 2.5 percent is reflected beginning in FY 2012, allowing for a return to implementing annual wage adjustments.

Health and Benefits costs for FY 2011 are shown on Line 2 of Table 6, estimated to be 10.0 percent higher than such costs in FY 2010, and reflect a 10.0 percent inflation factor each year thereafter.

Plant operations costs are shown on Line 3 of Table 6, and are estimated for FY 2011 to be comparable to FY 2010 levels. An inflation rate of 4.0 percent is assumed for each year thereafter.

Historical and projected Chemical costs are shown in Table 6, Line 4. Commodity costs, such as bulk chemical costs, have fluctuated historically and in FY 2009, the City experienced unusually high costs influenced by a dramatic increase in fuel prices. Such costs have since subsided, as reflected in the FY 2010 results. For FY 2011, Chemical costs are budgeted at \$4.0 million, and are estimated to inflate at the Plant Operations general inflation level of 4.0 percent thereafter.

The projection of Bad Debt Expense is based on one percent of projected Retail Revenues, and is shown on Line 5 of Table 6.

Other Post Employee Benefits are estimated to amount to \$250,000 in FY 2011, and are expected to increase 3.0 percent annually thereafter.

General allocation of expenses to offset charges for specific internal services provided by other City Departments, such as Human Resources, Finance and Legal Support, are budgeted within applicable Water Utility Cost Centers. Such costs are shown on Line 8 of Table 6.

The Director's Office, the Accounting and Budget, the Engineering, and the Water Accounts Divisions also provide administrative and engineering support for the City's Sewer System. The total Water Fund Operating Budget for these expenses is included in total O&M in Table 6. The Sewer System's share of these

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administrative and engineering costs is recovered by an interdepartmental transfer, which is included as Other Operating Revenue on Line 10 of Table 5.

The Water Fund Operating Budget includes a transfer payment to Norfolk's General Fund as ROI. This transfer recognizes a return to the City for its continued investment in the Water Fund. ROI is not typically recorded in utility chart of accounts as an operation or maintenance expense. Since ROI calculations are provided under the City's current utility basis of rate making, the transfer to the General Fund has not been included with the Water Fund's O&M expenses shown in Table 6. The payment to the General Fund for ROI is subsequently accounted for in Table 9.

Budgeted operating expenses also include a PILOT paid to the City's General Fund. PILOT represents a payment to the City in lieu of property taxes that might otherwise be paid by a private utility on above ground property within the City limits, and represents a transfer of revenues to the City. Although included in the Water Fund Operating Budget, PILOT and ROI are excluded from the definition of O&M in the Indenture. Therefore, in Table 6, PILOT is not included but has been accounted for subsequently in Table 9 for evaluating revenue adequacy.

The FY 2010 operating expenses, excluding about \$11.2 million for PILOT and ROI, results in a net O&M expenditure of \$34.6 million. The total Water Fund O&M expense is projected to increase from the FY 2011 projected levels of \$35.7 million to approximately \$40.7 million in FY 2015. The average inflationary increase during this time is 3.4 to 3.7 percent per year, excluding FY 2012 which is influenced by the projected decrease in retirement contributions.

### ***3.2 Capital Improvement Program Cash Flow Expenditures***

When financing its capital improvements, the City estimates annual project expenditure requirements of the ongoing CIP. To the extent actual project bids are less than authorized amounts, the City evaluates project priorities and may add projects as allowed within authorized levels each budget year. The most recent results of this process are shown in Table 7 for the Study Period. Specific projects include regulatory driven 37<sup>th</sup> Street WTP upgrades and Blackwater & Nottoway Pump Station improvements, Western Branch Dam improvements and distribution main upgrades in Norfolk's Retail Service neighborhoods.

Cashflow projections for capital projects during the Study Period are assumed to include an allowance for inflation. Annual capital improvement program cash flow expenditures, varying in size from nearly \$24 million in FY 2012 to \$17 million in FY 2014, total an estimated \$108.1 million for FY 2011 to FY 2015.

Table 7 includes cash flow for some previously authorized CIP (FY 2011 and prior), and some cash flow for future planned CIP (FY 2012 and future). All significant projects listed above are discussed in Section 2.0 in detail.

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**Table 7**  
**Projected Capital Improvement Program Spending Plan**  
**Fiscal Year Ending June 30,**

Line No.	Description	Projected					Total
		2011	2012	2013	2014	2015	2011 - 2015
		\$	\$	\$	\$	\$	\$
<b>Projects</b>							
1	Low Lift Pump Station Upgrades	1,333,333	666,667				2,000,000
2	High Service Pump Room and Miscellaneous	300,000	900,000				1,200,000
3	Basins 7 & 8 Upgrades	750,000	1,750,000				2,500,000
4	Tank Coating/Repairs	100,000	200,000				300,000
5	Basins 2-3-4-5-6 Upgrades		1,680,000	1,120,000			2,800,000
6	Filter Upgrades & Miscellaneous			2,900,000			2,900,000
7	37 <sup>th</sup> Street Plant Upgrades	2,500,000	2,750,000	3,333,333	833,333		9,416,667
8	Blackwater and Nottoway Phase I	1,200,000	800,000				2,000,000
9	Blackwater and Nottoway Phase II			1,000,000	4,000,000	3,000,000	8,000,000
10	Centrifuge at Moores Bridges	2,333,333	3,666,667				6,000,000
11	Aerators	622,500					622,500
12	Western Branch Dam	3,200,000	5,400,000	5,400,000			14,000,000
13	Generators at Blackwater and Nottoway	150,000					150,000
14	Design and Construction 37 <sup>th</sup> Street Plant				2,000,000	13,750,000	15,750,000
15	Operations Bay	375,000	375,000				750,000
16	SCADA	500,000	500,000				1,000,000
17	Replace Lab Equipment - Moores Bridges Water Treatment Plant	150,000					150,000
18	Transmission and Distribution Projects	8,195,000	5,109,000	9,337,500	10,237,500	5,687,500	38,566,500
19	<b>Total Capital Program Spending Plan</b>	<b>21,709,000</b>	<b>23,797,000</b>	<b>23,091,000</b>	<b>17,071,000</b>	<b>22,438,000</b>	<b>108,106,000</b>

### 3.3 Projected Financial Operations

The projected cash flow of operations and capital program funding is discussed in this Section, and is based on estimated levels of revenues, operating expenses and capital program expenditures developed in Tables 2 through 7. Funding requirements for various reserve funds are also discussed. Tests for the Indenture's Revenue Covenant and Conditions for Issuing Additional Bonds are made to check revenue adequacy.

To provide for the continued operation of the Water Utility on a sound financial basis, utility revenues must be adequate to meet the following criteria:

- Fund annual utility revenue requirements on a revenue priority basis. The Indenture stipulates that the City will make transfers from the Revenue Fund in the following order of priority:
  - ◆ Operating Fund, to maintain a balance of one-sixth of each year's budgeted operating expenses excluding debt service, capitalized operation and maintenance expense, and payments to the General Fund. This equates to payment of O&M expenses as they are incurred, and maintaining approximately sixty days of budgeted O&M expenses as a working capital reserve.
  - ◆ Bond Fund, to meet principal and interest payments on revenue bond debt.
  - ◆ Parity Debt Service Fund, to make payments on any Parity Indebtedness when due.
  - ◆ Debt Service Reserve Fund, held by the Trustee as additional security for the Bondholders, to build any deficiencies in the Debt Service Reserve Fund back to the Debt Service Reserve Requirement level.
  - ◆ Subordinate Debt Service Fund, to make payments on any Subordinate Debt when due.
  - ◆ Repair and Replacement Reserve Fund, such amounts as may be determined by the City to establish, sustain or increase the reserve level from the initial \$1,000,000 balance.
  - ◆ Rate Stabilization Fund, such amounts as may be necessary to accumulate the Rate Stabilization Requirement for use in mitigating impacts of projected future rate increases, and anticipated true-ups of wholesale customer revenues.

## 3.0 FINANCIAL REQUIREMENTS

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- ◆ General Reserve Fund, to use first to cure any deficit which may exist in the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Repair and Replacement Fund and the Rate Stabilization Fund, and then for any lawful purpose.
- Revenue Covenants and Conditions for Issuing Additional Bonds.

### 3.3.1 Projected Financial Operating Results

The projected financial ability of Norfolk's Water Fund revenue to meet annual revenue requirements and maintain adequate fund balances for the Study Period is summarized in Table 8 through Table 10. These tables provide an indication of the Fund's ability to meet Revenue Covenants of the Indenture while indicating a need for periodic issuance of revenue bonds to cover the estimated cash flow needs of the capital program.

Projections of annual water sales revenue from existing rates, estimated additional revenues from projected rate increases, allowance for bad debt expense, other operating revenue and interest income, which result in total available revenue, are shown in Lines 1 through 10 of Table 8. The City has historically reviewed and adjusted water rates annually, as necessary, to recover all costs of providing water service. An adopted City ordinance provides for an automatic increase of 3.5 percent annually in the Norfolk Retail rates. Line 3 of Table 8 shows revenue adjustments, which (1) recognize rate making provisions in existing contracts between Norfolk and its wholesale customers; and, (2) reflect continued approval of Utilities' Retail rate increases of 3.5 percent for FY 2012 through FY 2015 as allowed by City ordinance. All rates are assumed to be implemented by Norfolk on July 1 of the fiscal years shown.

As shown in Line 10 on Table 8, total annual revenue ranges from \$81.7 million in FY 2011 to \$93.1 million in FY 2015. The Virginia Beach Water Services Contract provides for true-up adjustments of biennially projected rates. Included in FY 2010 is \$1.9 million reflecting the biennial true-up, as previously shown on Table 4. In future periods it is assumed that the revenue projection adequately represents the cost of services provided to Virginia Beach in accordance with contractual terms and conditions.

Projected transfers to or from the Rate Stabilization Fund are presented on Line 7 of Table 8. No transfers to or from the Rate Stabilization Fund are anticipated during the Study Period. The Rate Stabilization Fund does not have a required minimum balance. As presented on Line 12 of Table 9, the Rate Stabilization Fund balance is projected to remain at \$2.0 million throughout the Study Period.

Projections of Other Operating Revenue on Line 8 of Table 8 are those previously discussed in Table 5, including the reimbursement to the Water Fund for administrative and engineering costs associated with the Sewer System. Interest Income projections are based on an interest rate of 0.5 percent in FY 2011 times the average of the beginning and ending year balances in the Operating Fund, Rate Stabilization Fund, Operating Fund Reserve and the Repair and Replacement Reserve Fund. Each year thereafter, the interest rate is projected to increase by 0.25 percent, achieving a projected interest rate of 1.5 percent in FY 2015. These funds are discussed subsequently.

Projections of O&M expenses on Line 11 of Table 8 are those previously presented in Table 6 less the allowance for bad debt. Line 12 of Table 8 shows estimated Net Revenue remaining after deducting projected O&M expenses from total revenue.



### 3.0 FINANCIAL REQUIREMENTS

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**Table 8**  
**Projected Operating Results**  
**Fiscal Year Ending June 30,**

Line No.	Description	2010	Projected				
			2011	2012	2013	2014	2015
		\$	\$	\$	\$	\$	\$
<b>Projected Operating Results</b>							
1	Revenue from Rates:						
2	Revenue from Existing Rates	79,904,000	79,314,000	79,961,000	80,122,000	80,248,000	80,373,000
3	Revenue from Increases <sup>(1)</sup>		-	2,156,000	4,431,000	6,939,000	9,537,000
4	Gross Water Sales Revenue	79,904,000	79,314,000	82,117,000	84,553,000	87,187,000	89,910,000
5	Bad Debt Expense <sup>(2)</sup>	(301,294)	(341,000)	(353,000)	(365,000)	(378,000)	(391,000)
6	Net Water Sales Revenue	79,602,706	78,973,000	81,764,000	84,188,000	86,809,000	89,519,000
7	Rate Stabilization Fund Transfers (to)/from	-	-	-	-	-	-
8	Other Operating Revenue	2,890,000	2,447,000	2,447,000	2,447,000	2,447,000	2,447,000
9	Interest Income	325,933	232,000	388,000	584,000	826,000	1,109,000
10	<b>Total Revenue</b>	<b>82,818,639</b>	<b>81,652,000</b>	<b>84,599,000</b>	<b>87,219,000</b>	<b>90,082,000</b>	<b>93,075,000</b>
11	<b>Operation and Maintenance Expenses <sup>(3)</sup></b>	<b>(34,250,000)</b>	<b>(35,379,000)</b>	<b>(36,175,000)</b>	<b>(37,492,000)</b>	<b>(38,866,000)</b>	<b>(40,301,000)</b>
12	<b>Net Revenue</b>	<b>48,568,639</b>	<b>46,273,000</b>	<b>48,424,000</b>	<b>49,727,000</b>	<b>51,216,000</b>	<b>52,774,000</b>
13	Revenue Bond Debt Service						
14	Outstanding Bonds	(25,350,000)	(25,343,000)	(25,349,000)	(25,346,000)	(25,345,000)	(25,350,000)
15	2010 Bonds <sup>(4)</sup>	-	(1,179,000)	(2,880,000)	(2,878,000)	(2,877,000)	(2,879,000)
16	Proposed Future Bonds <sup>(5)</sup>	-	-	-	(1,366,000)	(2,732,000)	(4,033,000)
17	<b>Total Revenue Bond Debt Service</b>	<b>(25,350,000)</b>	<b>(26,522,000)</b>	<b>(28,229,000)</b>	<b>(29,590,000)</b>	<b>(30,954,000)</b>	<b>(32,262,000)</b>
18	<b>Revenue Bond Debt Service Coverage</b>	<b>1.92</b>	<b>1.74</b>	<b>1.72</b>	<b>1.68</b>	<b>1.65</b>	<b>1.64</b>
19	Existing General Obligation Debt Service <sup>(6)</sup>	(3,250,000)	(3,128,000)	(2,222,000)	(822,000)	(592,000)	(561,000)
20	<b>Total Debt Service</b>	<b>(28,600,000)</b>	<b>(29,650,000)</b>	<b>(30,451,000)</b>	<b>(30,412,000)</b>	<b>(31,546,000)</b>	<b>(32,823,000)</b>
21	<b>Total Debt Service Coverage</b>	<b>1.70</b>	<b>1.56</b>	<b>1.59</b>	<b>1.64</b>	<b>1.62</b>	<b>1.61</b>
22	<b>Net Available For Other Purposes</b>	<b>19,969,000</b>	<b>16,623,000</b>	<b>17,973,000</b>	<b>19,315,000</b>	<b>19,670,000</b>	<b>19,951,000</b>

(1) City Ordinance provides for an increase of 3.5 percent annually in Norfolk Retail rates. Also includes projected increases in wholesale contracts, in accordance with individual contract terms.

(2) Bad debt expense = historical 1% of retail revenue.

(3) O&M excluding bad debt.

(4) Assumes 2010 Bond sale of \$47.1M issued in FY 2011.

(5) Assumes future bond sales of \$42M in FY 2013, and \$40M in FY 2015.

(6) General Obligation Debt Service is not subordinate debt and is paid from the General Reserve Fund.

### 3.0 FINANCIAL REQUIREMENTS

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**Table 9**  
**City of Norfolk Water Utility Fund Balance Projections**  
**Fiscal Year Ending June 30,**

Line No.	Description	Projected				
		2011	2012	2013	2014	2015
		\$	\$	\$	\$	\$
<b>Sources of Funds</b>						
1	General Reserve Fund Beginning Balance	32,855,000	37,832,000	43,478,000	50,869,000	58,515,000
2	Net Available for Other Purposes	16,623,000	17,973,000	19,315,000	19,670,000	19,951,000
3	Total Sources	49,478,000	55,805,000	62,793,000	70,539,000	78,466,000
<b>Uses Of Funds</b>						
4	Deposits (to) / from Operating Fund Reserve	(154,000)	(251,000)	(262,000)	(273,000)	(293,000)
5	Deposits (to) / from Repair and Replacement Fund	-	-	-	-	-
6	Cash Financed Capital	(200,000)	(700,000)	(200,000)	(200,000)	(200,000)
7	Payment in Lieu of Taxes (PILOT)	(2,792,000)	(2,876,000)	(2,962,000)	(3,051,000)	(3,143,000)
8	Payment to General Fund (ROI)	(8,500,000)	(8,500,000)	(8,500,000)	(8,500,000)	(8,500,000)
9	Total Uses	(11,646,000)	(12,327,000)	(11,924,000)	(12,024,000)	(12,136,000)
10	End of Year General Reserve Fund Balance	37,832,000	43,478,000	50,869,000	58,515,000	66,330,000
<b>Unrestricted Assets</b>						
11	General Reserve Fund	37,832,000	43,478,000	50,869,000	58,515,000	66,330,000
<b>Restricted Assets</b>						
12	Rate Stabilization Fund	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
13	Operating Fund Reserve	7,154,000	7,405,000	7,667,000	7,940,000	8,233,000
14	Repair and Replacement Fund	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
15	Debt Service Reserve Fund <sup>(1)</sup>	6,615,000	6,615,000	9,347,000	9,347,000	11,949,000
16	Capital Project Fund / Revenue Bond Proceeds	24,555,000	1,556,000	17,596,000	840,000	15,712,000

<sup>(1)</sup> Does not include debt service reserve fund surety policies, which total \$21,700,172.

### 3.0 FINANCIAL REQUIREMENTS

CITY OF NORFOLK, VIRGINIA  
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**Table 10**  
**City of Norfolk Water Utility Capital Improvement Financing Plan**  
**Fiscal Year Ending June 30,**

Line No.	Description	Projected				
		2011	2012	2013	2014	2015
		\$	\$	\$	\$	\$
<b>Source of Funds</b>						
1	Capital Project Fund Beginning of Year Balance	-	24,554,718	1,555,718	17,595,718	839,718
2	Bond Issuance	49,383,718	-	42,000,000	-	40,000,000
3	Transfer from / (to) Operating Fund	200,000	700,000	200,000	200,000	200,000
4	Interest Income	61,000	98,000	95,000	115,000	123,000
5	Total Source of Funds	49,644,718	25,352,718	43,850,718	17,910,718	41,162,718
<b>Uses of Funds</b>						
6	Major Capital Improvements	21,709,000	23,797,000	23,091,000	17,071,000	22,438,000
7	Bond Issuance Cost	501,000	-	432,000	-	411,000
8	Transfer to Debt Service Reserve Fund	2,880,125	-	2,732,000	-	2,602,000
9	Total Use of Funds	25,090,000	23,797,000	26,255,000	17,071,000	25,451,000
10	<b>Capital Project Fund End of Year Balance</b>	<b>24,554,718</b>	<b>1,555,718</b>	<b>17,595,718</b>	<b>839,718</b>	<b>15,711,718</b>

### 3.0 FINANCIAL REQUIREMENTS

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Projected debt service requirements for Outstanding Senior Debt, the 2010 Bonds, and subsequent planned additional revenue bonds are shown on Lines 14 through 16 of Table 8. Projected revenue bond debt service is related to proposed annual revenue bond issues sized to finance capital program cash flow expenditures discussed previously in Table 7. The size and timing of proposed revenue bond issues are discussed subsequently. Total annual revenue bond debt service is shown on Line 17 of Table 8. Revenue bond debt service coverage is presented on Line 18 and determined by dividing net revenue (Line 12) by total revenue bond debt service (Line 17). Projected annual coverage is shown to be equal to or greater than 1.64 times throughout the Study Period, exceeding the minimum of 1.10 times required by the Indenture for Outstanding Senior Debt.

The debt service payments for existing General Obligation Bonds are shown on Line 19 of Table 8. Such bonds are not defined as Parity or Subordinated Lien Debt and are excluded from coverage calculations defined by the Indenture.

Total funds available to meet other obligations of the Water Fund are transferred to the General Reserve Fund and shown on Lines 22 of Table 8 and Line 2 of Table 9.

The beginning General Reserve balance of \$32.9 million in FY 2011, as shown on Line 1 of Table 9, reflects quick available funds (current cash and short-term investments).

For the Water System to operate effectively as a utility enterprise, sound financing dictates that it is both prudent and appropriate to provide an General Reserve Fund to accommodate normal fluctuations in expenditures for utility operations and to provide a Repair and Replacement Reserve to permit immediate funding for unforeseeable capital emergency needs. These reserves are in addition to the normal flow of working capital funds. The requirements of Norfolk's Indenture are consistent with this practice.

At the beginning of FY 2011 the City has a balance in the Operating Fund Reserve of \$7 million. As shown on Line 13 of Table 9, the Operating Fund Reserve balance is assumed to increase to \$8.2 million in FY 2015 due to the anticipated annual deposits shown on Line 4 of Table 9, which are calculated in proportion to each year's projected increase in O&M expenses.

The Repair and Replacement Reserve Fund was established with the issuance of the Series 1993 Water Revenue Bonds at the \$1 million minimum required by the Indenture. Subsequent additions to the Repair and Replacement Reserve have provided for the current beginning FY 2011 balance of \$2 million as shown on Line 14 of Table 9. During the Study Period, the Repair and Replacement Reserve Fund balance is projected to remain at \$2 million as presented on Line 14 of Table 9, exceeding the minimum requirement.

The Debt Service Reserve Fund has been maintained as required by the Indenture and is met with a combination of maintenance of reserve funds and debt service reserve fund surety policies. The current beginning FY 2011 cash balance of \$3.7 million is anticipated to increase to \$11.9 million as shown on Line 15 of Table 9. Additions to the Debt Service Reserve Fund are anticipated to be funded from planned revenue bond proceeds as shown on Line 8 of Table 10.

Other payments to the City including the Water Fund's payments to the City's General Fund for PILOT and ROI which are shown on Lines 7 and 8 of Table 9. PILOT is projected to increase 3 percent annually, while ROI is expected to remain constant over the Study Period.

The resulting End of Year General Reserve Fund balances are shown on Lines 10 and 11 of Table 9 and are considered to be an unrestricted fund balance. The City may elect each year to use available balances from this Fund to finance a portion of future capital improvement projects and thereby reduce the size of future revenue bond issues, as shown on Line 6.

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CITY OF NORFOLK, VIRGINIA  
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Table 10 shows the proposed financing of the Water Fund's CIP. Table 10 illustrates that all capital program funding needs are assumed to be met from available beginning capital funds balance; proceeds from future revenue bond issues; transfers from the General Reserve Fund; and interest income on invested capital funds and bond proceeds in accordance with restrictions on tax-exempt bond issues.

No beginning funds are available in FY 2011 for the CIP, as shown on Line 1 of Table 10.

As indicated on Line 2 of Table 10, proceeds amounting to \$49.4 million from the sale of Water Utility Revenue Bonds, Series 2010, are anticipated to be available in FY 2011. This amount of bonds, which includes about \$2.3 million in anticipated premium, is intended to cover issuance costs and debt service reserve requirements, plus provide about \$46.0 million in proceeds for capital improvement expenditures. The 2010 Bonds are assumed to be issued in September 2010 with a term of 30 years, at an average annual interest rate of 4.6 percent, with generally equal annual principal and interest payments.

Additional revenue bond issues, shown on Line 2 of Table 10, will be required in subsequent fiscal years of the Study Period to meet the capital program cash flow requirements. Projected revenue bond issues total \$131.4 million for the Study Period ending FY 2015, including proceeds of \$49.4 million in FY 2011 as previously described, \$42.0 million in FY 2013, and \$40.0 million in FY 2015. For long-range planning purposes, a 5.0 percent interest rate on the FY 2013 and FY 2015 revenue bond issues is assumed. Subsequent bond issues are estimated to be sold in January of the fiscal year indicated and sized to provide capital funds adequate to finance major construction in the remainder of the then current fiscal year and the following fiscal year.

### 3.3.2 Revenue Covenant and Bond Issuance Covenant Tests

The Indenture, under which the revenue bonds will be issued, requires that sufficient coverage of debt service by Net Revenue be provided. The Indenture contains two covenants, the Revenue Covenant and the Bond Issuance Covenant, which measure the ability of revenues generated by the Fund to cover debt service and operating costs.

### 3.0 FINANCIAL REQUIREMENTS

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**Revenue Covenant** may be met by either of two tests:

- Test (i) of the Indenture's Section 9.4 evaluates the ability of total annual revenues less O&M expenses to be greater than 1.10 times the sum of annual principal and interest expense of projected Senior Debt Service and 1.00 times Subordinated Debt Service for contracted services. Or,
- Test (ii) of Section 9.4 evaluates the ability of total annual revenues to be greater than all funding requirements of the Indenture, including operation and maintenance expense, projected revenue bond debt service, recurring minor improvements and deposits to reserves.

**Conditions for Issuing Bonds** (the "Additional Bonds Test") may be met by either of two tests:

- The first test of the Indenture's Section 5.3.(h)(2) evaluates the ability of the Net Revenues, for any twelve consecutive months of the previous twenty-four months prior to issuance and adjusted as specified under Section 5.3.(h)(3), to be equal to the Revenue Covenant in Section 9.4 of greater than 1.10 times the maximum principal and interest expense of outstanding and projected Senior Debt Service and 1.00 times Subordinated Debt Service in the year of bond issuance. Or,
- The second test of Section 5.3.(h)(2) evaluates the ability of Adjusted Net Revenues, described above, to be equal to the Revenue Covenant in Section 9.4 or greater than the funding requirements in the year of bond issuance, including operation and maintenance expense, projected revenue bond maximum debt service for outstanding and proposed bonds, recurring minor improvements, and deposits to reserves.

Tests have been performed to determine if the above-described Revenue Covenant and Conditions for Issuing Bonds will be satisfied over the Study Period using the assumptions contained in this Report. The results of the Revenue Covenant analysis are summarized in Table 8 and Table 11 which demonstrates the ability of Water Utility revenues to meet current and projected water revenue bond debt service coverage requirements.

**Annual Coverage.** The Revenue Covenant requires that Net Revenues not be less than the greater of (i) the sum of 1.1 times Senior Debt Service and 1.0 times the annual principal and interest payments on Subordinated Debt Service or (ii) 1.0 times the funding requirements for the transfer from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund and the Repair and Replacement Reserve Fund. Line 18 of Table 8 shows annual coverage for the Prior Bonds, the 2010 Bonds and subsequently projected Bond issues exceeding the 1.1 requirement for senior lien debt. No Subordinate Debt is outstanding or is planned during the Study Period.

**Additional Bonds Test.** The test for issuance of Additional Bonds, as stipulated by the Indenture, requires that Net Revenues, for any 12 consecutive months of the 24 calendar months preceding the issuance of additional Bonds (as adjusted for rate increases in effect on the date of issuance) satisfy the requirements of the Revenue Covenant as stated above using the maximum debt service of all outstanding Bonds and projected Bonds in any year. As shown in Table 11, FY 2010 Adjusted Net Revenue is projected to be approximately \$48.4 million, which is based upon FY 2010 unaudited results and adjusted for the adopted FY 2011 schedule of water rates. A comparison of this amount, with the combined maximum principal and interest expense for Senior Lien Debt for existing and proposed 2010 bonds of \$28,231,121, results in coverage of 1.71 times. No Subordinate Debt is outstanding or projected in FY 2010.

### 3.0 FINANCIAL REQUIREMENTS

CITY OF NORFOLK, VIRGINIA  
SERIES 2010 REVENUE BOND FEASIBILITY ANALYSIS

**Table 11**  
**Additional Bonds Test**  
**Fiscal Year Ended June 30, 2010**

Line No.	Description	2010
	2010 Unaudited Net Revenue	
1	Total Revenue <sup>(1)</sup>	\$ 80,638,056
2	Operation and Maintenance Expense <sup>(2)</sup>	(34,249,936)
3	Net Revenue Available for Debt Service	<u>\$ 46,388,120</u>
	Revenue Adjustments for:	
4	2011 Rate Increase	\$ 1,998,990
5	Utility Systems Acquisitions	-
6	New Water Service Contracts	-
7	System Additions, Extensions and Improvements	-
8	Total Adjustments	<u>\$ 1,998,990</u>
9	Adjusted Net Revenue Available for Debt Service	<u><u>\$ 48,387,110</u></u>
10	Projected Maximum Senior Debt Service <sup>(3)</sup>	\$ 28,231,121
11	Projected Debt Service Coverage	1.71

<sup>(1)</sup> Includes \$1,259,000 for the WTW 2010 reservation fee and \$964,883 from the Virginia Beach True-up.

<sup>(2)</sup> Does not reflect \$301,294 in bad debt which is deducted from Net Revenue in Line 1.

<sup>(3)</sup> Maximum Senior Debt Service occurs in FY 2023.

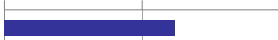






## 3.0 FINANCIAL REQUIREMENTS

CITY OF NORFOLK, VIRGINIA  
SERIES 2010 REVENUE BOND FEASIBILITY ANALYSIS

### 3.4 Typical Bill Comparison

An analysis comparing a typical monthly bill for the City's residential customers at 6 Ccf (about 4,500 gallons) of usage to local water providers was completed and the results are shown in Table 12. Results for the local water providers reflect rates effective as of July 2010. The City's charges for water service are comparable with other water providers in the region and similarly sized systems in the Commonwealth.

**Table 12**  
**Typical Monthly Water Bill (6 Ccf)**

<u>Community</u>	<u>Bill</u>	<u>Rank</u>	\$-	\$25.00	\$50.00
<i>Ranking Relative to Local Providers</i>					
Chesapeake	\$ 31.03	6			
Newport News	\$ 22.28	1			
<b>Norfolk</b>	<b>\$ 24.22</b>	<b>4</b>			
Portsmouth	\$ 24.03	2			
Richmond	\$ 27.62	5			
Suffolk	\$ 35.04	7			
Virginia Beach	\$ 24.21	3			

### 3.5 Summary

Based on the engineering and financial feasibility analysis which discussed previously in this Report, Black & Veatch has provided the following opinions:

- The City's present Water System can be expected to provide sufficient capacity to meet current water needs of its residents, businesses and all of its current contract obligations for the foreseeable future. The City's treated water currently meets all physical, chemical, radiological and bacteriological water quality standards established by Federal and State regulations.
- The Water System is managed and operated in an appropriate manner consistent with sound engineering practices and with appropriate levels of staffing; and coupled with the CIP, is capable of providing safe and reliable drinking water to its customers for the foreseeable future.
- Norfolk's Water System is in overall good condition and appears capable of revenue generation for the term of the 2010 Bonds with continued regular maintenance and scheduled system improvements.
- The CIP adequately addresses necessary Water System facility renovations and upgrades. The program sufficiently addresses current and proposed Federal and State regulations regarding safe drinking water, dam safety and environmental protection. While there are some potential contaminants that may be incorporated into future Safe Drinking Water Act amendments, there are no pending regulations that will appear to impact the improvements planned in the CIP.
- Throughout the Study Period, the City's net revenues are projected to be sufficient (including projected revenue increases indicated in the Report resulting from rate increases which have been approved by City Council) to comply with the annual revenue covenant requirement in the Indenture, taking into account the actual or projected debt service on the Outstanding Senior Debt, the 2010 Bonds, and planned additional Bonds to be issued during the Study Period.
- The funds available from the 2010 Bonds, together with other funds available to the City will be sufficient to complete the design and/or construction of the CIP.
- Adequate utility reserves are projected to be maintained during the Study Period.



### 3.0 FINANCIAL REQUIREMENTS

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CITY OF NORFOLK, VIRGINIA  
SERIES 2010 REVENUE BOND FEASIBILITY ANALYSIS

- Based on the City's unaudited financial results for FY 2010, the City is projected to be able to meet the revenue covenant requirements of the Indenture regarding the issuance of additional bonds, taking into account (i) the maximum principal and interest payments on the Outstanding Senior Debt and the 2010 Bonds and (ii) the rates, fees and other charges which are in effect and any future changes therein as have been approved by the Council at the time of the delivery of the 2010 Bonds.
- The sale of the 2010 Bonds, in the amount of approximately \$47,105,000 is financially feasible under the assumptions and projections contained in this Report.

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**WATER UTILITY FUND FINANCIAL STATEMENTS  
FOR THE YEARS ENDED JUNE 30, 2008 AND 2009**

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# **Water Utility Fund of the City of Norfolk, Virginia**

**Financial and Compliance Report  
Year Ended June 30, 2009**

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KPMG LLP  
Suite 2100  
999 Waterside Drive  
Norfolk, VA 23510

## Independent Auditors' Report

The Honorable Members of the City Council  
Water Utility Fund of the City of Norfolk, Virginia:

We have audited the accompanying statements of net assets of the Water Utility Fund of the City of Norfolk, Virginia (the Fund) as of June 30, 2009 and 2008, and the related statements of revenues, expenses and changes in fund net assets and cash flows for the years then ended. These financial statements are the responsibility of the management of the City of Norfolk. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the *Specifications for Audits of Counties, Cities and Towns* (Specifications), issued by the Auditor of Public Accounts of the Commonwealth of Virginia. Those standards and specifications require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Fund's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

As discussed in note 1 to the financial statements, the accompanying financial statements present only the Water Utility Fund and do not purport to, and do not, present fairly the financial position of the City of Norfolk, Virginia, the changes in its financial position or its cash flows, where applicable, in conformity with U.S. generally accepted accounting principles.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Water Utility Fund of the City of Norfolk, Virginia as of June 30, 2009 and 2008, and the changes in its financial position and its cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

The Fund has not presented a Management's Discussion and Analysis that U.S. generally accepted accounting principles has determined is necessary to supplement, although not required to be a part of, the financial statements.

Our audits were conducted for the purpose of forming an opinion on the financial statements of the Fund, taken as a whole. The supplemental schedule is presented for purposes of additional analysis and is not a required part of the financial statements. Such information has been subjected to the auditing procedures applied in the audits of the financial statements and, in our opinion, is fairly stated, in all material respects, in relation to the financial statements taken as a whole.



In accordance with *Government Auditing Standards*, we have also issued our report dated January 19, 2010 on our consideration of the Fund's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be read in conjunction with this report in assessing the results of our audits.

KPMG LLP

January 19, 2010



**Water Utility Fund of the City of Norfolk, Virginia**  
**Statements of Net Assets**  
**June 30, 2009 and 2008**

	2009	2008
<b>ASSETS</b>		
Current assets:		
Cash and short term investments	\$ 29,216,859	\$ 27,469,306
Receivables:		
Accounts (net)	9,157,426	7,875,823
Unbilled accounts	4,226,869	4,561,975
Accrued investment income	6,108	120,798
Other receivables	115,000	230,000
Inventories	1,627,194	1,716,213
Restricted cash held in escrow	114,904	-
Restricted short term investments:		
Restricted cash held with fiscal agent	-	8,229,234
Restricted investment held with fiscal agent	8,279,648	-
Reserve funds	12,759,726	12,674,049
Investment restricted for construction	17,014,387	30,794,685
Total current assets	82,518,121	93,672,083
Capital assets		
Non-depreciable assets	34,325,172	36,480,589
Depreciable assets	548,398,331	534,594,175
Accumulated depreciation	(144,750,965)	(135,042,141)
Total noncurrent assets	437,972,538	436,032,623
Total assets	520,490,659	529,704,706
<b>LIABILITIES</b>		
Current liabilities:		
Vouchers payable	980,514	1,363,804
Vouchers payable for CIP projects	2,094,902	689,891
Contract retainage	794,072	651,101
Accrued interest	112,682	265,200
Accrued payroll	281,198	265,440
Due to General Fund and other funds	3,369,643	2,097,679
Payable to employees' retirement system	1,696,500	1,144,608
Compensated absences	656,331	657,900
Current portion of bonds payable	12,232,578	11,807,731
Accrued revenue bond interest payable	2,655,047	2,778,165
Other liabilities	1,160,744	3,088,186
Total current liabilities	26,034,211	24,809,705
Noncurrent liabilities:		
General obligations payable	6,594,840	10,539,072
Revenue bonds payable	300,897,242	309,969,201
Liability for other postemployment benefits (OPEB)	466,000	351,508
Compensated absences	341,367	272,300
Other long-term liabilities	640,000	1,280,000
Total noncurrent liabilities	308,939,449	322,412,081
Total liabilities	334,973,660	347,221,786
<b>NET ASSETS</b>		
Invested in capital assets, net of related debt	135,262,265	134,511,304
Restricted	14,769,879	14,674,049
Unrestricted	35,484,855	33,297,567
	\$ 185,516,999	\$ 182,482,920

See Notes to Financial Statements

**Water Utility Fund of the City of Norfolk, Virginia**

**Statements of Revenues, Expenses and Changes in Fund Net Assets**  
**Years Ended June 30, 2009 and 2008**

	2009	2008
Operating revenues:		
Charges for services	\$ 74,453,906	\$74,239,988
Miscellaneous	2,666,962	2,915,980
Total operating revenues	77,120,868	77,155,968
Operating expenses:		
Personnel services	13,972,816	13,120,146
Plant operations	6,844,241	6,625,810
Chemicals	4,963,652	3,446,908
Provision for bad debts	419,459	710,185
Depreciation	11,335,890	11,096,511
Retirement contribution	2,126,353	1,144,608
OPEB expense	114,492	351,508
Administrative expenses	1,710,050	1,809,616
Other	10,656,564	12,350,421
Total operating expenses	52,143,517	50,655,713
Operating income	24,977,351	26,500,255
Nonoperating revenue (expenses):		
Interest income, net of interest capitalized	899,684	1,574,056
Interest expense and fiscal charges	(14,826,222)	(14,199,647)
Loss on sale or disposal of assets	(20,392)	(21,484)
Total nonoperating expenses	(13,946,930)	(12,647,075)
Net income before contributions and transfers	11,030,421	13,853,180
Transfers out	(8,500,000)	(8,500,000)
Change in net assets	3,034,079	5,528,958
Total net assets - beginning	182,482,920	176,953,962
Total net assets - ending	\$ 185,516,999	\$182,482,920

See Notes to Financial Statements

**Water Utility Fund of the City of Norfolk, Virginia**

**Statements of Cash Flows**

**Years Ended June 30, 2009 and 2008**

	2009	2008
<b>CASH FLOWS FROM OPERATING ACTIVITIES:</b>		
Receipts from customers	\$ 75,869,912	\$ 76,414,860
Payments to suppliers	(12,102,164)	(12,277,358)
Payments to employees	(15,686,553)	(14,612,069)
Other payments	(14,711,524)	(12,238,464)
Net cash provided by operating activities	33,369,671	37,286,969
<b>CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES:</b>		
Internal activity, payments to other funds	1,271,964	(11,745,048)
Transfers out	(8,500,000)	(8,500,000)
Net cash used by noncapital financing activities	(7,228,036)	(20,245,048)
<b>CASH FLOWS FROM CAPITAL AND RELATING FINANCING ACTIVITIES:</b>		
Proceeds from sale of debt	3,700,816	59,226,015
Capital contributions	503,658	175,778
Purchases of capital assets	(11,748,215)	(15,732,538)
Purchase of other assets held for sale	-	(17,493)
Refunding of debt principal	(3,708,424)	-
Principal paid on capital debt	(11,807,732)	(11,577,746)
Interest paid and bond service charges	(15,877,862)	(13,840,582)
Net cash provided (used) by capital and related financing activities	(38,937,759)	18,233,434
<b>CASH FLOWS FROM INVESTING ACTIVITIES:</b>		
Proceeds from sale of investments	14,810,424	28,810,994
Purchase of investments	(9,395,451)	(63,279,728)
Interest and dividends	1,014,374	1,541,345
Net cash provided (used) by investing activities	6,429,347	(32,927,389)
Net increase in cash and cash equivalents	(6,366,777)	2,347,966
Cash and cash equivalents - beginning of year	35,698,540	33,350,574
Cash and cash equivalents - end of year	\$ 29,331,763	\$ 35,698,540

(Continued)

**Water Utility Fund of the City of Norfolk, Virginia**

**Statements of Cash Flows (Continued)**

**Years Ended June 30, 2009 and 2008**

**Reconciliation of Operating Income to Net Cash**

**Provided by Operating Activities:**

Operating income	\$ 24,977,351	\$ 26,500,255
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation expense	11,335,890	11,096,511
Provision for bad debt	419,459	710,185
Change in assets and liabilities:		
Accounts receivable (net), billed and unbilled	(1,365,956)	(856,108)
Other receivables	115,000	115,000
Inventories	89,019	(215,037)
Vouchers payable	(383,290)	(1,989,603)
Accrued payroll	635,148	(347,315)
Other liabilities	(2,452,950)	2,273,081
Net cash provided by operating activities	<u>\$ 33,369,671</u>	<u>\$ 37,286,969</u>

**Reconciliation of cash and short term investments to the statement of net assets:**

Cash and short term investments	\$ 29,216,859	\$ 27,469,306
Restricted cash held in escrow	114,904	\$ -
Restricted cash and short term investments held with fiscal agent	-	\$ 8,229,234
Total cash and short term investments per statement of net assets	<u>\$ 29,331,763</u>	<u>\$ 35,698,540</u>

**Noncash investing, capital and financing activities:**

Loss on sale or disposal of capital assets	\$ (20,392)	\$ (3,991)
Acquisition of capital assets through change in contract retainage	\$ 142,971	\$ 186,023
Acquisition of capital assets through vouchers payable	\$ 1,405,011	\$ 440,122
Capitalized interest	\$ 897,276	\$ 564,336

## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

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#### Note 1. Summary of Significant Accounting Policies

The Water Utility Fund (the "Fund") was established at the direction of Norfolk City Council as an enterprise fund on July 1, 1979. The Fund accounts for the provision of water services to City of Norfolk (the "City") residents, municipal customers and others outside the City. Activities necessary to provide water services, including operations, maintenance, financing and related debt service, and billing and collection, are accounted for in the Fund. Although separate financial statements have been presented for the Fund, it is also included in the City of Norfolk's Comprehensive Annual Financial Report as a major Enterprise Fund.

A summary of the Fund's significant accounting policies is as follows:

Basis of accounting: The financial statements are presented on the accrual-basis of accounting, wherein revenues are recognized in the accounting period in which they are earned and expenses are recognized in the accounting period in which the related liabilities are incurred. The Fund adopted Statement No. 20 of the Governmental Accounting Standards Board, *Accounting and Financial Reporting for Proprietary Funds and Other Governmental Entities That Use Proprietary Fund Accounting*. Accordingly, the Fund has elected not to apply Statements and Interpretations issued by the Financial Accounting Standards Board after November 30, 1989.

Deposits and Investments: The Fund's cash and short-term investments include cash on hand, demand deposits, and short-term investments with original maturities of one year or less from the date of acquisition.

Investments of the Fund are stated at fair value. Short-term investments are recorded at cost, which approximates fair value. The fair value of the State Treasurer's Local Government Investment Pool (LGIP) is the same as the value of the pool shares. The LGIP is not registered with the Securities and Exchange Commission (SEC) as an investment company, but maintains a policy to operate in a manner consistent with the SEC's Rule 2a7 of the Investment Company Act of 1940. The external investment pool is administered by the Treasury Board of Virginia. Other investments are stated at their fair value. Securities traded on a national securities exchange are valued at the last reported sales price on the last business day of the fiscal year. Investments that do not have an established market are reported at estimated fair value, primarily net asset value determined based on the fair value of the underlying securities. These investments are reported in the accompanying financial statements as cash and short-term investments, unless the original investment period exceeded one year, in which case they are reported as investments.

Investment income includes both realized and unrealized gain and loss components.

Accounts receivable: Accounts receivable are receivables due at the end of the fiscal year which have not been collected by year-end, net of allowance for doubtful accounts. The Fund determines past due status of individual water account receivables based on contractual terms and generally does not charge interest on past-due amounts. The Fund estimates its allowance for doubtful accounts based on a combination of factors, including the Fund's historical loss experience and any anticipated effects related to current economic conditions, as well as management's knowledge of the current composition of water receivables. Accounts that management believes to be ultimately not collectible are written off upon such determination. Unbilled accounts, net, are estimated at each fiscal year-end based on water usage by customers for whom billings have not yet been processed.

Inventories: Inventories are stated at the lower of cost (using the first-in, first-out method) or market.

## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

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Restricted assets: Certain unspent proceeds of the revenue bonds as well as certain resources set aside for their repayment are classified as restricted assets on the statement of net assets because they are maintained in separate bank accounts and their use is limited by applicable bond covenants.

Capital assets: Capital assets are recorded at cost, less accumulated depreciation. Assets acquired prior to July 1977, for which historical cost records were not available, were appraised and valued at estimated historical cost by means of accepted-price-indexing methodology.

Depreciation: Depreciation is computed using the straight-line method over the following estimated useful lives:

	Years
Buildings and improvements	35 - 100
Transmission and distribution mains	40 - 100
Service meters and meter installation	35 - 50
Pumping and other water equipment	10 - 60
Furniture, fixtures and equipment	5 - 25

When an asset is retired or otherwise disposed of, the related cost and accumulated depreciation are eliminated from the accounts and any resulting gain or loss is reflected as nonoperating revenue or expense.

Interest costs incurred on funds borrowed for construction projects are capitalized, net of interest earned on the temporary investment of the unexpended portion of those funds.

The Fund evaluates prominent events or changes in circumstances affecting capital assets to determine whether impairment of a capital asset has occurred. A capital asset is generally considered impaired if both (a) the decline in service utility of the capital asset is large in magnitude and (b) the event or change in circumstance is outside the normal life cycle of the capital asset. Impaired capital assets that will no longer be used by the government are reported at the lower of carrying value or fair value. Impairment losses on capital assets that will continue to be used by the government are measured using the method that best reflects the diminished service utility of the capital asset. Any insurance recoveries received as a result of impairment events or changes in circumstances resulting in the impairment of a capital asset are netted against the impairment loss.

Compensated absences: It is the Fund's policy to permit employees to accumulate earned but unused vacation and sick pay benefits. Vacation leave is fully vested when earned by Fund employees. Sick leave does not vest for Fund employees; however, upon retirement, Fund employees receive credit for each day of accumulated sick leave toward their pension benefit. There is no liability for unpaid accrued sick leave service since the Fund does not pay when the employee separates from service.

Net assets: Net assets in the financial statements are classified as invested in capital assets, net of related debt; restricted; and unrestricted. Restricted net assets represent constraints on resources that are either externally imposed by creditors, grants, contributions, laws and regulations of other governments or imposed by law through state statute.

Operating and nonoperating revenues: The Fund reports as operating revenues all charges for services generated through service fees and certain other miscellaneous revenues. Other revenues, including interest revenue and grants, are reported as nonoperating. When both restricted and unrestricted resources are

## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

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available for use, the policy is to use restricted resources first, and then unrestricted resources as they are needed.

General allocations: The General Fund of the City provides administrative services to the Fund, which totaled \$2,211,218 and \$1,809,616 for the fiscal years ended June 30, 2009 and 2008, respectively. Charges for these services are treated as expenses by the Fund. In addition the Fund recorded, as other expenses, payments to the General Fund in lieu of taxes of \$2,625,254 and \$2,532,674 for the fiscal years ended June 30, 2009 and 2008, respectively.

Bond discount/premium: Discount and premium on bonds are amortized, using the effective-interest method, over the life of the debt and is included in interest expense.

Deferred gain (loss) on advance refunding: Gain (loss) on advance refunding is amortized, using the effective-interest method, over the shorter of the life of the refunded bonds or the life of the new bonds.

Estimates: The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Reclassifications: Certain reclassifications have been made to balances at June 30, 2008 to conform to the June 30, 2009 financial statement presentation.

#### Note 2. Cash and Investments

At June 30, 2009 and 2008, the Fund's cash and investments consist of the following:

	2009	2008
Investment in LGIP	\$ 16,008,394	\$ 18,154,210
Other investments	29,053,761	42,697,968
Certificates of deposit	9,000,000	9,000,000
Cash	13,323,369	9,315,096
	<u>\$ 67,385,524</u>	<u>\$ 79,167,274</u>
Cash and short term investments	\$ 29,216,859	\$ 27,469,306
Restricted cash held in escrow	114,904	-
Restricted cash and short term investments held with fiscal agent	8,279,648	8,229,234
Other restricted assets	29,774,113	43,468,734
	<u>\$ 67,385,524</u>	<u>\$ 79,167,274</u>

Deposits: All cash of the Fund is maintained in accounts collateralized in accordance with the Virginia Security for Public Deposits Act, Section 2.2-4400 et. seq. of the Code of Virginia or covered by federal depository insurance.

## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

The Fund's restricted assets on the statement of net assets include \$9,000,000 of certificates of deposits at June 30, 2009 and 2008. These deposits have an original maturity of one year or less from the date of acquisition and therefore are classified as restricted short-term investments.

Investments: Statutes authorize the Fund to invest in obligations of the United States or agencies thereof, obligations of the Commonwealth of Virginia or political subdivisions thereof, obligations of the International Bank for Reconstruction and Development ("World Bank") and Asian Development Bank, the African Development Bank, commercial paper rated A-1 by Standard and Poor's or P-1 by Moody's Commercial Paper Record, banker's acceptances, repurchase agreements, and the State Treasurer's Local Government Investment Pool ("LGIP"), certain mutual funds, corporate notes, asset-backed securities, and savings accounts or time deposits.

The Fund has no formal policy regarding credit risk, interest rate risk, concentration of credit risk, custodial credit risk, or foreign investment risk.

The Fund had \$16,008,394 and \$18,154,210 deposited in the LGIP at June 30, 2009 and 2008, respectively, which carries a Standard and Poor's rating of AAAM which is included in cash and short-term investments.

The Fund's investments for the years ended June 30, 2009 and 2008, other than in LGIP, are categorized below to give an indication of the level of interest rate risk for each investment type by the entity at year-end.

Investment Type	Fiscal Year 2009		Fiscal Year 2008	
	Fair Value		Fair Value	
	Less than 1 year	1-5 years	Less than 1 year	1-5 years
SNAP Money Market Mutual Funds	\$ 17,014,387	\$ -	\$ 30,799,687	\$ -
US Agency Notes	3,750,899	-	-	3,669,047
PFM Funds Government Series	8,288,475	-	-	-
Money market funds	-	-	8,229,234	-
	<b>\$ 29,053,761</b>	<b>\$ -</b>	<b>\$ 39,028,921</b>	<b>\$ 3,669,047</b>

The Fund's rated debt investments, other than in LGIP, as of June 30, 2009 and 2008 were rated by Standard and Poor's and the ratings are presented below using the Standard and Poor's rating scale.

Investment Type	Fiscal Year 2009						Total
	AAA	AAAM	A-1+	AA+	AA	AA-	
Money Market Mutual Funds							
SNAP Money Market Mutual Funds	\$ -	\$ 17,014,387	\$ -	\$ -	\$ -	\$ -	\$ 17,014,387
PFM Funds Government Series		8,288,475	-	-	-	-	8,288,475
US Agency Notes							
PFM Funds Bonds/Notes	3,750,899	-	-	-	-	-	3,750,899
	<b>\$ 3,750,899</b>	<b>\$ 25,302,862</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 29,053,761</b>



## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

Investment Type	Fiscal Year 2008						Total
	AAA	AAAm	A-1+	AA+	AA	AA-	
Money Market Mutual Funds							
SNAP Money Market Mutual Funds	\$ 4,188,077	\$ -	\$ 25,097,668	\$ 800,662	\$ 61,589	\$ 646,689	\$ 30,794,685
CCRF SNAP Federal Portfolio MMF	-	5,002	-	-	-	-	5,002
US Agency Notes							
SNAP Portfolio FNMA Note (Callable)	3,669,047	-	-	-	-	-	3,669,047
Money market funds	8,229,234	-	-	-	-	-	8,229,234
	<u>\$ 16,086,358</u>	<u>\$ 5,002</u>	<u>\$ 25,097,668</u>	<u>\$ 800,662</u>	<u>\$ 61,589</u>	<u>\$ 646,689</u>	<u>\$ 42,697,968</u>

The Fund has combined amounts restricted for capital projects and amounts for which the nature of the transaction generated a related liability with amounts available for general operating use in the statements for the Fund. These amounts are not available to meet obligations arising from the operating activities of the Fund.

A summary of the liabilities payable from restricted assets at June 30, 2009 and 2008 is as follows:

	2009	2008
Liabilities payable from restricted assets	<u>\$ 2,655,047</u>	<u>\$ 2,778,165</u>

Certain of the Fund's cash and investments are combined with other City monies for investment purposes. These amounts were covered by federal depository insurance or collateralized in accordance with the Virginia Security for Public Deposits Act. Reference should be made to the Comprehensive Annual Financial Report of the City of Norfolk for further cash and investment disclosures.

#### Note 3. Accounts Receivable

Accounts receivable at June 30, 2009 and 2008 is comprised of the following:

	2009	2008
Governmental	\$ 3,120,938	\$ 1,356,650
Residential	2,979,731	2,701,057
Refuse disposal fees	3,111,652	2,561,102
Commercial	1,169,797	1,280,130
Utility taxes	783,255	930,411
Industrial	408,279	417,814
Other	996,793	1,475,320
	<u>12,570,445</u>	<u>10,722,484</u>
Less allowance for uncollectible accounts	<u>(3,413,019)</u>	<u>(2,846,661)</u>
	<u>\$ 9,157,426</u>	<u>\$ 7,875,823</u>

Utility taxes and refuse disposal fees receivable are remitted to the City's General Fund when collected.

## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

#### Note 4. Unbilled Accounts Receivable

At June 30, 2009 and 2008, the Fund recognized \$4,226,869 and \$4,561,975 as unbilled accounts receivable, respectively. These amounts were billed in July 2009 and July 2008, respectively.

#### Note 5. Capital Assets

Capital assets at June 30, 2009 and 2008 are comprised of the following:

	Balance June 30, 2008	Additions	Retirements	Transfers	Balance June 30, 2009
<b>Nondepreciable assets:</b>					
Land	\$ 12,338,879	\$ -	\$ -	\$ 142,000	\$ 12,480,879
Construction in progress	24,141,710	13,142,698	(1,837,213)	(13,602,902)	21,844,293
Total nondepreciable assets	36,480,589	13,142,698	(1,837,213)	(13,460,902)	34,325,172
<b>Depreciable assets:</b>					
Buildings	178,742,621	-	-	80,048	178,822,669
Equipment	355,851,554	1,999,587	(1,656,333)	13,380,854	369,575,662
Total	534,594,175	1,999,587	(1,656,333)	13,460,902	548,398,331
Less accumulated depreciation	(135,042,141)	(11,335,890)	1,627,066	-	(144,750,965)
Depreciable assets, net	399,552,034	(9,336,303)	(29,267)	13,460,902	403,647,366
Total capital assets, net	\$ 436,032,623	\$ 3,806,395	\$ (1,866,480)	\$ -	\$ 437,972,538

	Balance June 30, 2007	Additions	Retirements	Transfers	Balance June 30, 2008
<b>Nondepreciable assets:</b>					
Land	\$ 12,338,879	\$ -	\$ -	\$ -	\$ 12,338,879
Construction in progress	18,110,342	16,572,228	(2,420,102)	(8,120,758)	24,141,710
Total nondepreciable assets	30,449,221	16,572,228	(2,420,102)	(8,120,758)	36,480,589
<b>Depreciable assets:</b>					
Buildings	178,553,024	-	-	189,597	178,742,621
Equipment	346,931,260	1,326,313	(337,180)	7,931,161	355,851,554
Total	525,484,284	1,326,313	(337,180)	8,120,758	534,594,175
Less accumulated depreciation	(124,278,819)	(11,096,511)	333,189	-	(135,042,141)
Depreciable assets, net	401,205,465	(9,770,198)	(3,991)	8,120,758	399,552,034
Total capital assets, net	\$ 431,654,686	\$ 6,802,030	\$ (2,424,093)	\$ -	\$ 436,032,623

The Fund capitalized \$1,151,110 of interest expense and \$253,834 of interest income for the fiscal year ended June 30, 2009. For the fiscal year ended June 30, 2008, the Fund capitalized \$1,011,255 of interest expense and \$446,919 of interest income. The total interest cost was \$15,977,332 and \$15,210,902 for the fiscal year ended June 30, 2009 and 2008, respectively.

## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

#### Note 6. Long-Term Obligations

General obligation bonds: A summary of general obligation bond transactions for the fiscal year ended June 30, 2008 follows:

	2009	2008
General obligation bonds outstanding at July 1	\$ 13,297,600	\$ 17,210,346
Bonds retired/refunded	(7,466,156)	(3,912,746)
Bonds issued	3,700,816	(3,912,746)
Bonds outstanding at June 30	9,532,260	9,384,854
Unamortized discount/premium	(124,842)	999,203
General obligation bonds outstanding at June 30, adjusted for unamortized discount/premium	9,407,418	10,384,057
Less current portion	(2,812,578)	(3,757,731)
	\$ 6,594,840	\$ 6,626,326

Water utility general obligation bonds outstanding are comprised of the following individual issues:

Bond Issue/Purpose	Dated	Issue Amount	Interest Rate	2009	2008
Series 1998 Refunding	06/15/1998	\$ 49,190,000	5.00%	\$ 1,320,556	\$ 6,361,491
Series 2002 Refunding	02/13/2002	47,200,000	2.00 - 5.00%	2,213,020	2,964,699
Series 2002B Refunding	11/01/2002	39,890,000	4.00 - 5.25%	840,102	874,899
Series 2004 Refunding	03/16/2004	96,395,000	4.00 - 5.00%	1,457,766	3,096,511
Series 2009 Refunding	5/21/2009	21,895,000	3.00 - 5.00%	3,700,816	-
Total Water Utility General Obligation Bonds				\$ 9,532,260	\$ 13,297,600

On May 13, 2009, the City sold \$21,895,000 of general obligation bonds which were used to defease \$17,060,000 of the City's Series 1998 General Obligation Bonds and \$5,400,000 of the City's Series 2002 General obligation Bonds. \$3,700,816 of these bonds were liabilities of this Fund. The advance refunding will reduce the City's total debt service payments for bonds and result in an economic gain (difference between the present values of the debt service payments on the old and new debt) of \$1,505,606.

A summary of the requirements to amortize general obligation bonds outstanding at June 30, 2009 and 2008 is as follows:

## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

Year Ending June 30,	Principal	Interest
2010	\$ 2,812,578	\$ 437,694
2011	2,822,993	304,804
2012	2,058,267	163,900
2013	739,589	82,154
2014	551,047	41,165
2015	547,786	13,695
	<u>\$ 9,532,260</u>	<u>\$ 1,043,412</u>

General obligation bonds are payable first from the revenue of the specific funds in which they are recorded; however, the full faith and credit of the City are pledged to the payment of the principal and interest on general obligation bonds.

Revenue bonds: A summary of revenue bond transactions for the fiscal year ended June 30, 2009 and 2008 follows:

	2009	2008
Revenue bonds outstanding at July 1	<b>\$ 320,825,000</b>	\$ 270,075,000
Bonds retired	<b>(8,050,000)</b>	(7,665,000)
Bonds issued	-	58,415,000
Bonds outstanding at June 30	<b>312,775,000</b>	320,825,000
Less unamortized discount	<b>(2,457,758)</b>	(2,805,799)
Revenue bonds outstanding at June 30, adjusted for unamortized discount/premium	<b>310,317,242</b>	318,019,201
Less current portion	<b>(9,420,000)</b>	(8,050,000)
	<b>\$ 300,897,242</b>	\$ 309,969,201

Water utility revenue bonds outstanding are comprised of the following individual issues:

Bond Issue/Purpose	Dated	Issue Amount	Interest Rate	2009	2008
Series 1993 Water Revenue	11/01/1993	\$ 68,430,000	2.80 - 5.375%	<b>\$ 46,665,000</b>	\$ 48,650,000
Series 1995 Water Revenue	08/15/1995	115,680,000	4.75 - 7.00%	<b>87,535,000</b>	90,480,000
Series 1998 Water Revenue and Refunding	11/01/1998	84,605,000	4.00 - 5.125%	<b>68,150,000</b>	70,115,000
Series 2001 Water Revenue and Refunding	10/15/2001	35,000,000	4.00 - 5.00%	<b>30,425,000</b>	31,160,000
Series 2005 Water Revenue and Refunding	03/23/2005	22,810,000	3.50 - 5.00%	<b>21,585,000</b>	22,005,000
Series 2008 Water Revenue	04/23/2008	58,415,000	3.00 - 5.00%	<b>58,415,000</b>	58,415,000
Total Water Utility Revenue Bonds				<b>\$ 312,775,000</b>	\$ 320,825,000

A summary of the requirements to amortize water revenue bonds outstanding at June 30, 2009 and 2008 is as follows:

## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

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Year Ending		
June 30,	Principal	Interest
2010	\$ 9,420,000	\$ 15,929,680
2011	9,875,000	15,467,723
2012	10,375,000	14,973,521
2013	10,900,000	14,446,373
2014	11,455,000	13,889,785
2015 - 2019	67,105,000	59,623,713
2020 - 2024	87,705,000	39,029,981
2025 - 2029	62,315,000	17,369,170
2030 - 2034	24,670,000	7,216,575
2035 - 2039	18,955,000	2,132,822
	<u>\$ 312,775,000</u>	<u>\$ 200,079,343</u>

Water revenue bonds are payable solely from the revenue of the Fund. The most restrictive covenant of the water revenue bonds requires that the Fund's net revenue to be not less than the greater of (i) the sum of 1.1 times senior debt service and 1.0 times subordinated debt service for the fiscal year or (ii) 1.0 times the funding requirements for transfers from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Revenue Fund, the Subordinated Debt Service Fund and the Repair and Replacement Reserve Fund. Pursuant to the terms of the revenue bond indenture, certain resources have been set aside for the repayment of the revenue bonds. These resources are classified as restricted cash held with fiscal agent on the balance sheet because their use is limited by applicable bond covenants.

Bonds authorized and unissued as of June 30, 2009 and 2008 were \$32,775,000 and \$3,075,000, respectively.

#### **Note 7. Retirement Obligations**

The Fund contributes to the Employees' Retirement System of the City of Norfolk (the "System"), a single-employer noncontributory defined benefit plan, which is accounted for as a separate Pension Trust Fund. Reference should be made to the Comprehensive Annual Financial Report of the System for a further description of the plan. Retirement expense was \$2,126,353 and \$1,144,608 for the years ended June 30, 2009 and 2008, respectively.

#### **Note 8. Other Liabilities**

In 2006, a current liability of \$853,000 was recorded in the Water Utilities Fund to reflect over-recovery of revenue from a wholesale customer during fiscal year 2006 under the water contract. In 2007, an additional liability of \$1,067,000 was recorded for this same wholesale customer. Pursuant to the terms of the water services contract, billings to the customer were based on budgeted Water Utility Fund capital and operating expenditures during the fiscal years. The liability reflects the adjustments to billings based on the difference between budgeted expenditures and actual cost of service for that customer (capital and operating). In accordance with a settlement agreement dated March 12, 2008, the Fund began reimbursing the wholesale customer \$1,920,000 over three years in equal monthly installments starting July 2008.

## **Water Utility Fund of the City of Norfolk, Virginia**

### **Notes to Financial Statements**

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#### **Note 9. Significant Customers**

Billed and unbilled accounts receivable includes \$3,920,604 and \$2,130,545 due from the City of Virginia Beach and \$679,611 and \$914,497 due from the United States Navy for water sales at June 30, 2009 and 2008, respectively. Net charges for services include \$25,256,779 and \$23,060,612 for water sales to the City of Virginia Beach and \$8,122,459 and \$8,318,612 for the United States Navy for the fiscal years ended June 30, 2009 and 2008.

#### **Note 10. Commitments and Contingencies**

Commitments for completion of capital projects authorized at June 30, 2009 and 2008 were approximately \$17,391,000 and \$13,000,000, respectively.

As discussed above, amounts received under a certain contract are subject to audit and adjustment by third-party experts and the contracting party. Differences identified, including amounts already collected, may constitute a liability of the Fund. The difference, if any, between revenue earned and recorded cannot be determined at this time.

#### **Note 11. Litigation**

From time-to-time the Fund and the City are defendants in a number of lawsuits. Although it is not possible to determine the final outcome of these matters, management and the City attorney are of the opinion that the ultimate liability will not be material and will not have a significant effect on the Fund's financial condition.

#### **Note 12. Risk Management**

The Fund is exposed to various risks of loss related to: theft of, damage to, and destruction of assets; injuries to employees; general liability; automobile liability; crime and employee dishonesty; professional liability; and directors and officers' liability. The Fund's coverage is provided through the City of Norfolk's combination of purchased insurance policies and self-insurance plans.

#### **Note 13. Other Postemployment Benefits (OPEB)**

The Fund adopted GASB Statement No. 45, Accounting and Financial Reporting by Employers for Other Postemployment Benefits (OPEB) in FY2008.

The City of Norfolk provides post-retirement health care benefits, in accordance with state statutes which require extending access to healthcare benefits to certain retirees. General City employees are eligible to participate at the earlier of age 55 and 15 years of creditable service or 25 years of creditable service. Employees who retire on accidental disability are also eligible. Retirees that elect to participate may purchase health care coverage using the same health care plans and premium structures available to active employees. Retiree participation, plan/benefit elections and contributions, are administered by the City's Retirement Bureau based on the participation guidelines established by the Norfolk City Council.

Projections of benefits for financial reporting purposes are based on the plan and include the types of benefits provided at the time of each valuation. The actuarial methods and assumptions used include techniques designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. The actuarial valuation was performed as of July 1, 2008 with results projected for the fiscal year ended June 30, 2009.

## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

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The City's annual OPEB cost (expense) is calculated based on the annual required contribution (ARC), an amount actuarially determined in accordance with GASB Statement No. 45. Under this Statement, governments report on an accrual basis, benefit costs related to the period in which benefits are earned rather than to the period of benefit distribution. The annual required contribution represents a level of funding that, if paid on an on-going basis, is projected to cover normal cost each year and amortize any unfunded actuarial liabilities over a period not to exceed thirty years.

The Fund used the pay as you go method to calculate the OPEB liability for June 30, 2009 as the City has not funded a trust for the OPEB liability. Using the most recent OPEB Plan Valuation Date of July 1, 2008 prepared by Cheiron, the City's actuary, the City has allocated to the Fund an ARC cost of \$466,000 and total OPEB liability for 2009 of \$2,604,959. In FY2008, the City, based on Cherion's OPEB Plan Valuation, allocated to the Fund an ARC cost of \$351,508 and total OPEB liability of \$2,534,556. The allocation is based on covered payroll and does not purport to represent the OPEB liability of the Fund on a stand-alone basis. Reference should be made to the Comprehensive Annual Financial Report of the City of Norfolk for further information.

#### **Note 14. Subsequent Event**

The City of Norfolk has reached an agreement with the Western Tidewater Authority to provide water over next 40 years. The sale of water will generate \$1.2 million in the first year and increase over time to approximately \$6 million annually based on current dollar value.

#### **Note 15. Accounting Pronouncements Issued But Not Yet Implemented**

The GASB has issued several pronouncements prior to June 30, 2009 that has effective dates that may impact future financial presentations.

Management has not currently determined what, if any, impact implementation of the following statements may have on the financial statements of the Fund.

- GASB Statement 51, *Accounting and Financial Reporting for Intangible Assets*. GASB 51 requires that all intangible assets not specifically excluded by its scope provisions be classified as capital assets. Accordingly, existing authoritative guidance related to the accounting and financial reporting for capital assets should be applied to these intangible assets, as applicable. Additionally, GASB 51 establishes a specified-conditions approach to recognizing intangible assets that are internally generated and establishes criteria for when such expenditures should be capitalized. GASB 51 is effective for periods beginning after June 15, 2009 and generally requires its provisions to be applied retroactively.
- GASB Statement 53, *Accounting and Financial Reporting for Derivative Instruments*. GASB 53 addresses the recognition, measurement and disclosure of information regarding derivative instruments entered into by state and local governments to manage specific risks or to make investments. A key provision of this statement is that derivative instruments covered in its scope with limited exception, are reported at fair value. For many derivative instruments, historical prices are zero because their terms are developed so that the instruments may be entered into without a payment being received or made. The changes in fair value of derivative instruments used for investment purposes are reported within the investment revenue classification. Alternatively, changes in fair value of derivative instruments that are classified as hedging derivative instruments are reported in the statement of net assets as deferred inflows or outflows. Effectiveness of the instruments is to be analyzed. Objectives, terms and risks of hedging derivative instruments are required disclosures. Disclosures also will include a

## Water Utility Fund of the City of Norfolk, Virginia

### Notes to Financial Statements

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summary of derivative instrument activity that provides an indication of the fair value amounts reported on the financial statements. The improvements under GASB 53, which becomes effective for periods beginning after June 15, 2009, should allow users of a government's financial statements to more fully understand resources available to provide services.

- GASB Statement 54, *Funds Balance Reporting and Governmental Fund Type Definitions*. GASB 54 more clearly defines the classifications of fund balance for more consistent application, and also clarifies the definition of existing governmental fund types. The new classifications of fund balance will comprise a hierarchy based on the extent to which the government is bound to observe constraints imposed upon the use of the financial resources of the funds. Fund balance will be reported in the following categories: nonspendable, restricted, committed, assigned and unassigned, depending on the relative strength of the constraints that control how the resources are spent. Disclosures are required about the processes through which constraints are imposed on amounts in the committed and assigned categories. Disclosures must also include the government's policies that determine the type of fund balance categories spent. There is also guidance in the statement regarding classification of stabilization amounts on the financial statements and related note disclosures. The changes to fund balance required by GASB 54 are effective for periods beginning after June 15, 2010, with reclassifications of fund balance applied retroactively for all periods presented.



## Water Utility Fund of the City of Norfolk, Virginia

### Supplementary Schedule

#### Debt Capacity Information - Revenue Bonds Debt Service Coverage Last Ten Fiscal Years

Fiscal Year	Revenue Available for Debt Service (1)	Operating Expenses Less Depreciation & Amortization (2)	Income Available for Debt Service	Debt Service			Coverage
				Principle	Interest	Total	
2000	\$ 64,456,322	\$ 28,198,244	\$ 36,258,078	\$ 4,475,000	\$ 13,616,718	\$ 18,091,718	2.00
2001	64,459,300	29,732,203	34,727,097	4,680,000	13,411,636	18,091,636	1.92
2002	63,681,665	29,021,459	34,660,206	4,890,000	14,090,180	18,980,180	1.83
2003	67,760,029	30,867,286	36,892,743	5,700,000	14,600,283	20,300,283	1.82
2004	64,366,942	36,623,654	27,743,288	5,955,000	14,336,043	20,291,043	1.37
2005	69,183,154	37,584,692	31,598,462	6,250,000	14,041,059	20,291,059	1.56
2006	78,788,158	37,086,776	41,701,382	6,580,000	14,827,960	21,407,960	1.95
2007	76,013,563	35,050,694	40,962,869	7,310,000	14,379,821	21,689,821	1.89
2008	78,730,024	39,559,202	39,170,822	7,665,000	14,022,200	21,687,200	1.81
2009	78,020,552	40,807,627	37,212,925	8,050,000	16,411,343	24,461,343	1.52

1. Includes operating revenue plus interest income, net of interest capitalized not capitalized.

2. Includes operating expenses less depreciation and amortization.

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**DEFINITIONS AND SUMMARY OF CERTAIN PROVISIONS OF THE INDENTURE**

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**DEFINITIONS AND SUMMARY  
OF CERTAIN PROVISIONS OF THE INDENTURE**

**Definitions of Certain Terms**

"Accreted Value" will have the meaning set forth in the Supplemental Indenture authorizing any Capital Appreciation Bonds.

"Act" means the Public Finance Act of 1991, Chapter 26 of Title 15.2, of the Code of Virginia of 1950, as amended.

"Additional Bonds" mean any Bonds other than the 1993 Bonds, the 1995 Bonds, the 1998 Bonds, the 2001 Bonds, the 2005 Bonds, the 2008 Bonds or the 2010 Bonds.

"Annual Budget" means the budget referred to in the Master Indenture.

"Authorized City Representative" means any person or persons designated to act on behalf of the City by a certificate signed by its Director of Finance and filed with the Trustee.

"Average Interest Rate" means the average of the actual interest rates which were in effect (weighted according to the length of the period during which each such interest rate was in effect) for the most recent twelve-month period immediately preceding the date of calculation for which such information is available (or shorter period if such information is not available for a twelve-month period), except that with respect to new Variable Rate Indebtedness the interest rate for such Variable Rate Indebtedness for the initial interest rate period will be the initial rate at which such Variable Rate Indebtedness is issued and thereafter will be calculated as set forth above.

"Balloon Indebtedness" means any Indebtedness, including any Bond Anticipation Notes, 25% or more of the original principal amount of which matures or is subject to mandatory redemption during any consecutive twelve-month period, if the maturing principal amount is not required to be amortized below such percentage by mandatory redemption or prepayment before the twelve-month period.

"Bank" means (i) a bank or trust company that has a combined capital, surplus and undivided profits of not less than \$50,000,000 or (ii) a subsidiary trust company with combined capital, surplus and undivided profits, together with that of its parent bank or bank holding company, as the case may be, of not less than \$50,000,000; provided, however, that any such bank or trust company will have (or have a parent company which has) a long-term debt rating within one of the three highest categories by at least one of the Rating Agencies.

"Bond" or "Bonds" mean any bond or all of the bonds, as the case may be, issued pursuant to the Master Indenture and any Supplemental Indenture, but not including any Parity Indebtedness or Subordinate Debt or any bonds or other evidence of indebtedness of the City issued from time to time under any other indenture, trust agreement, ordinance, resolution or similar instrument.

"Bond Anticipation Notes" mean notes or other obligations issued in anticipation of the issuance of Bonds.

"Bond Counsel" means an attorney or a firm of attorneys (designated by the City) of nationally recognized standing in matters pertaining to the validity of and the tax-exempt nature of interest on bonds issued by states and their political subdivisions, duly admitted to the practice of law before the highest court of any state of the United States of America.

"Bond Debt Service" means for any period of twelve consecutive months the Debt Service Requirement with respect to any Bonds then Outstanding.

"Bond Fund" means the bond fund established under the Master Indenture.

"Business Day" means any day other than (i) a Saturday or Sunday, (ii) a day on which commercial banks in the Commonwealth, or the city in which the principal corporate trust office of the Trustee or the Paying Agent is located, are authorized by law to close, (iii) a day on which the New York Stock Exchange is closed, or (iv) such other days as may be specified in a Supplemental Indenture.

"Capital Appreciation Bonds" mean the Bonds in any Series designated as Capital Appreciation Bonds in the Supplemental Indenture authorizing the issuance of the Series.

"Capitalized Interest Account" means the Capitalized Interest Account of the Bond Fund.

"City" means the City of Norfolk, Virginia, a political subdivision of the Commonwealth.

"City Obligations" means for any Fiscal Year the amount budgeted to be paid to the general fund of the City for PILOT and ROI.

"Code" means the Internal Revenue Code of 1986, as amended, including applicable regulations and revenue rulings, and any successor codification.

"Commonwealth" means the Commonwealth of Virginia.

"Compounding Date" for Bonds of any Series will have the meaning set forth in the Supplemental Indenture authorizing the issuance of such Series.

"Consulting Engineer" means an independent engineering firm or individual engineer licensed to do business in Virginia and experienced with matters related to utilities similar to the System retained by the City as Consulting Engineer.

"Contracted Services" mean services rendered or facilities provided to the City in respect of the System or for the performance for or on behalf of the City of functions similar to those performed by the System, from a specific project, projects or systems, pursuant to a Service Contract, whether a financing lease, a service agreement or another arrangement.

"Cost" or "Cost of the Project" means all costs incurred by the City in connection with the acquisition, expansion, construction, improvement, renovation and equipping of the System or any Project comprising a portion of the System, as permitted by the Act, including, without limitation, the payment of costs of issuance of Bonds and the funding of such funds and accounts as provided in the Master Indenture or any Supplemental Indenture, the cost of all lands, properties, rights, easements, franchises and permits acquired, the cost of all machinery and equipment, amounts paid to purchase capacity or services from other entities which are required to be capitalized or which the City makes an election to capitalize, financing charges, initial credit enhancement charges, interest before and during construction of any Project and for up to one year after completion of construction of any Project, any amounts required to be rebated to the United States of America pursuant to Section 148(f) of the Code, any deposits to any bond interest and principal reserve accounts, the cost of engineering and legal services, plans, specifications, surveys, estimates of costs and of revenues, other expenses necessary or incident to determining the feasibility or practicability of any acquisition, improvement or construction, administrative expenses, working capital, the retirement of notes or other interim financing the proceeds of which were used to pay Costs, and such other expenses as may be necessary or incidental to the improvement of the System and placing it in operation.

"Cost of Contracted Services" means the payments to be made by the City for Contracted Services which may be allocated by the City between: (i) a Debt Service Component and (ii) an Operating Component. No designation or characterization of payments under a Service Contract will affect the City's right to make some other allocation of the payments for the purpose of the Master Indenture.

"Counsel" means such attorney or firm of attorneys selected or approved by the City who are duly admitted to practice law before the highest court of any state of the United States of America, none of whom is a full-time employee, member, director or officer of the City or a full-time employee or officer of the Trustee.

"Credit Facility" means a line of credit, letter of credit, standby bond purchase agreement or similar credit enhancement or liquidity facility established to provide credit or liquidity support for Bonds or Parity Indebtedness.

"Dealer" means a financial institution or government bond dealer which (i) is a member of the Securities Investors Protection Corporation and (ii) has a long-term debt rating in one of the three highest rating categories by at least one of the Rating Agencies or has a dealer or parent holding company that has a long-term debt rating within one of the three highest rating categories by at least one of the Rating Agencies.

"Debt Service Component" means the portion of the Cost of Contracted Services that an Authorized City Representative determines, in a certificate delivered to the Trustee, to be for the purpose of paying a fixed charge or the principal of or interest on the obligations, directly or indirectly associated with rendering the Contracted Services, of the person providing the Contracted Services.

"Debt Service Requirement" means, for any period of twelve consecutive months for which such determination is made, the aggregate of the amounts required to be deposited, as the case may be in the Bond Fund, the Parity Debt Service Fund and the Subordinate Debt Service Fund during this period with respect to any Bonds, Parity Indebtedness or Subordinate Indebtedness; provided, however, that:

(a) with respect to any Option Obligations, such Option Obligations will be assumed to mature on their stated dates of maturity;

(b) with respect to Balloon Indebtedness, it will be assumed that the principal of such Balloon Indebtedness, together with interest at the rate applicable to such Balloon Indebtedness, will be amortized in equal annual installments over a period of thirty years from the date the Balloon Indebtedness was incurred;

(c) with respect to Variable Rate Indebtedness, interest on such Indebtedness will be calculated at the Average Interest Rate;

(d) with respect to obligations related to any Credit Facility which constitute Parity Indebtedness or Subordinate Debt, to the extent that such Credit Facility has not been used or drawn upon, or any such drawing or use has been reimbursed to the provider the principal and interest relating to such Credit Facility will not be included in the Debt Service Requirement for such Parity Indebtedness or Subordinate Debt; and

(e) with respect to any Derivative Indebtedness, the interest on such Indebtedness will be calculated at the Hedged Fixed Rate, if any.

"Debt Service Reserve Fund" means the debt service reserve fund established under the Master Indenture.

"Debt Service Reserve Requirement" means an amount equal to the maximum amount of principal and interest payments due on the Bonds in the current or any future Fiscal Year; provided, however, that the Debt Service Reserve Requirement for any Series of Bonds may be less than the amount specified above if such lesser amount is set forth in the Supplemental Indenture authorizing the issuance of such Series of Bonds and such Supplemental Indenture establishes separate accounts in the Bond Fund and, if necessary in the Debt Service Reserve Fund for such Series of Bonds and provides that only such separate accounts within the Bond Fund and the Debt Service Reserve Fund are pledged to the payment of such Series of Bonds. With respect to any Series of Bonds, the Debt Service Reserve Requirement may be increased by the City to the extent that there is delivered to the Trustee an opinion of Bond Counsel to the effect that the increase will not adversely affect the exclusion of interest on the Bonds from gross income for purposes of federal income taxation. In determining the amount of principal and interest due on Bonds which are Variable Rate Indebtedness, interest will be calculated at a rate equal to the greater of (i) the actual interest rate on the Bonds in effect on the date of their issuance or (ii) the current average yield on municipal revenue bonds maturing in thirty years, according to the weekly index published by The Bond Buyer for the week immediately preceding the week in which the Bonds are issued. In the event The Bond Buyer is not published as the date of any determination, or if published, does not publish an index of the current yield on municipal revenue bonds maturing in thirty years, an alternative index or other source of current bond yields may be selected by the City with the consent of the Trustee. In determining the amount of principal and

interest due on Bonds which are Balloon Indebtedness, the amount of principal and interest on the Balloon Indebtedness due in any year will be calculated by assuming that the original principal amount of the Balloon Indebtedness amortized in equal annual installments over a period of thirty years from the date the Balloon Indebtedness was incurred.

"Defeased Municipal Obligations" mean obligations of state or local government municipal bond issuers, which are rated in the highest rating category by Moody's Investors Service, Inc., and Standard & Poor's Ratings Services, provision for the payment of the principal of and interest on which has been made by the deposit with a trustee or escrow agent of Government Obligations or Government Certificates, the maturing principal of and interest on which, when due and payable, will provide sufficient money to pay the principal of, redemption premiums, if any, and interest on such obligations of state or local government municipal bond issuers.

"Defeased Municipal Obligation Certificate" means evidence of ownership of a proportionate interest in specified Obligations, which Obligations are held by a bank or trust company organized and existing under the laws of the United States of America or any of its states acceptable to the Trustee in the capacity of custodian.

"Defeasance Obligations" mean (i) noncallable Government Obligations, (ii) Government Certificates, (iii) Defeased Municipal Obligations and (iv) Defeased Municipal Obligation Certificates.

"De Minimis Amount" means (i) in reference to original issue discount (as defined in Section 1273(a)(1) of the Code) or premium on an obligation (A) an amount that does not exceed 2% multiplied by the stated redemption price at maturity plus (B) any original issue premium that is attributable exclusively to reasonable underwriter's compensation; and (ii) in reference to market discount (as defined in Section 1278(a)(2)(A) of the Code) or premium on an obligation, an amount that does not exceed 2% multiplied by the stated redemption price at maturity.

"Derivative Indebtedness" has the meaning given to it in any Supplemental Indenture authorizing the issuance of a Series of Bonds and may also include, but is not limited to, a portion of Indebtedness which bears interest at a variable rate during any future period of time meeting the following requirements:

(a) the City has entered into a Hedge Agreement in respect of such Indebtedness within sixty days of the date of the issuance of the Indebtedness, and

(b) the Hedge Agreement provides that during the entire period that such Indebtedness bears interest at a variable rate the City will pay a fixed rate to the provider of the Hedge Agreement and the provider of the Hedge Agreement will pay the variable rate borne by such Indebtedness, or such Indebtedness, taken together with the Hedge Agreement, results in a net fixed rate payable by the City to the provider of the Hedge Agreement for such period of time (the "Hedged Fixed Rate"), assuming the City and the provider of the Hedge Agreement make all payments required to be made by the terms of the Hedge Agreement.

"Director of Finance" means the Director of Finance of the City or, if the City no longer has a person with the title of Director of Finance, the person filling the office with similar duties as the Director of Finance.

"Director of Utilities" means the Director of Utilities of the City or if the City no longer has a person with the title of Director of Utilities, the person filling the office with similar duties as the Director of Utilities.

"Existing Debt Service" means for any Fiscal Year the amount budgeted to be paid to the general fund of the City to pay debt service on general obligation bonds of the City issued to pay costs of the System.

"Event of Default" means any Event of Default described in "Summary of Certain Provisions of the Indenture – Event of Default."

"Financial Institution" means any Bank, Insurance Company or Dealer.

"Fiscal Year" means the period of twelve months established by the City as its annual accounting period.



"Fixed Rate Investment" means any obligation the yield on which was fixed and determinable on its issue date.

"General Reserve Fund" means the general reserve funds established under the Master Indenture.

"Government Certificates" mean evidences of ownership of a proportionate interest in specified Government Obligations which are held by a bank or trust company organized and existing under the laws of the United States of America or any of its states acceptable to the Trustee in the capacity of custodian.

"Government Obligations" mean bonds, notes and other direct obligations of the United States of America and securities unconditionally guaranteed as to the timely payment by the United States of America.

"Hedge Agreement" means a contract or agreement, payable from Net Revenues on a parity with or subordinate to any Bonds or Parity Indebtedness intended to place Indebtedness on the interest rate, currency, cash flow or other basis desired by the City, including, without limitation, any interest rate swap agreement, currency swap agreement, forward payment conversion agreement or futures contract, any contract providing for payments based on levels of, or changes in, interest rates, currency exchange rates, stock or other indices, any contract to exchange cash flows or a series of payments, or any contract, including, without limitation, an interest rate floor or cap, or an option, put or call, to hedge payment, currency, rate, spread or similar exposure, between the City and a counterparty; provided that not less than 30 days prior to the City's execution of such contract or agreement, each Rating Agency which maintains a rating with respect to any Indebtedness receives notice in writing of the City's pending execution thereof; and provided further that at the time of origination each Rating Agency which maintains a rating with respect to any Indebtedness confirms in writing to the City that the City's execution and delivery of such contract will not result in a downgrading, withdrawal or suspension of such rating.

"Hedge Fixed Rate" means Hedged Fixed Rate as defined in definition of Derivative Indebtedness.

"Indebtedness" means the Bonds, any Parity Indebtedness or any Subordinate Debt.

"Insurance Company" means an insurance company with a long-term debt rating within one of the three highest rating categories by at least one of the Rating Agencies.

"Interest Account" means the Interest Account of the Bond Fund.

"Interest Payment Date" means any date on which a payment of interest on any Bonds or any Parity Indebtedness is due.

"Interest Period" means the period from and including an Interest Payment Date to and including the day before the next Interest Payment Date, except the first Interest Period for each Series of Bonds and Parity Indebtedness will be the period from and including the date specified in the Supplemental Indenture authorizing the Series of Bonds or the document authorizing the Parity Indebtedness for the Bonds or Parity Indebtedness to begin to bear interest to and including the day before the first Interest Payment Date.

"Master Indenture" means the Master Indenture of Trust, between the City and the Trustee, as it may be modified, altered, amended and supplemented from time to time in accordance with its terms.

"Net Proceeds" mean the proceeds from any insurance recovery remaining after payment of attorneys' fees, fees and expenses of the City and the Trustee and all other expenses incurred in collection of the gross proceeds.

"Net Revenues" mean Revenues less Operating Expenses.

"Operating Component" means the portion of the Cost of Contracted Services reasonably determined by an Authorized City Representative, in a certificate delivered to the Trustee from time to time, to be directly or indirectly attributable to the ownership or operation of the System without regard to its treatment under generally

accepted accounting principles; provided, however, if no such determination is made, all of the Cost of Contracted Services will be treated as Operating Component.

"Operating Expenses" mean all expenses which may reasonably be determined by the City in its Annual Budget to be directly or indirectly attributable to the ownership or operation of the System and payable as Operating Expenses without regard to the treatment of such expenses under generally accepted accounting principles, including, without limitation, reasonable and usual expenses of administration, operation, maintenance and repair, which may include expenses not annually recurring, costs of billing and collecting the rates, fees and charges for the use of or the services furnished by the System, the Operating Component of the Cost of Contracted Services, insurance and surety bond premiums and reserves, other charges and fees necessary for the maintenance of adequate insurance coverage for the City and the System, fees and payments for any Credit Facility, legal, engineering and auditing expenses, expenses and compensation of the Trustee, reimbursement to the City's general fund for the cost of services rendered with respect to the System, and other expenses of the City required to be paid by law or under the Master Indenture or any Supplemental Indenture, but will not include (i) any allowance for amortization or depreciation, (ii) deposits or transfers to the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund, the Repair and Replacement Reserve Fund, the Rate Stabilization Fund, (iii) payments for Existing Debt Service or City Obligations and (iv) expenditures which the City makes an election to capitalize.

"Operating Fund" means the operating fund established under the Master Indenture.

"Opinion of Counsel" means a written opinion of any Counsel in form and substance acceptable to the Trustee.

"Option Obligations" mean any Indebtedness which by its terms may be tendered by and at the option of its Owner or holder for purchase before its stated maturity.

"Outstanding" means, at any date, the aggregate of all Indebtedness authorized, issued, authenticated and delivered under the Master Indenture and not paid and discharged, except:

- (a) Indebtedness cancelled or surrendered to the Paying Agent for cancellation;
- (b) Indebtedness deemed to have been paid as provided in the Master Indenture or in such other instrument authorizing its issuance; and
- (c) Indebtedness in lieu of or in substitution for which other Indebtedness has been authenticated and delivered pursuant to the Master Indenture and any Supplemental Indenture unless proof satisfactory to the Paying Agent is presented that any such Indebtedness is held by a bona fide Owner.

In determining whether Owners of a requisite aggregate principal amount of the Outstanding Bonds or Parity Indebtedness have concurred in any request, demand, authorization, direction, notice, consent or waiver under the Indenture, the principal amount of Capital Appreciation Bonds will be their Accreted Value (as of the immediately preceding Compounding Date). Indebtedness which is owned by the City will be disregarded and deemed not to be Outstanding for the purpose of any such determination; provided, however, that for the purpose of determining whether the Trustee will be protected in relying upon any request, demand, authorization, direction, notice, consent or waiver, only Indebtedness which the Trustee knows to be so owned will be disregarded.

"Owner" means the Person in whose name a particular Bond is registered on the records of the Paying Agent or who is the holder of Parity Indebtedness.

"Parity Debt Service" means, for any period of twelve consecutive months, the Debt Service Requirement with respect to Parity Indebtedness.

"Parity Debt Service Component" means all or any portion of the Debt Service Component of the Cost of Contracted Services under the Service Contracts meeting the requirements of the Master Indenture that an

Authorized City Representative, determines in a certificate delivered to the Trustee will be payable on a parity with the Bonds.

"Parity Debt Service Fund" means the parity debt service fund established under the Master Indenture.

"Parity Indebtedness" means (i) the Parity Debt Service Component of the Cost of Contracted Services and (ii) any other Parity Indebtedness incurred in accordance with the Master Indenture which is secured on a parity with the Bonds, including bonds, notes or other evidences of indebtedness issued pursuant to the Master Indenture and any Supplemental Indenture equally and ratably secured by a pledge of Net Revenues and, at the City's option, any other security pledged to such bonds, notes or other evidences of indebtedness but which are not secured by the Debt Service Reserve Fund. Parity Indebtedness may also include Bond Anticipation Notes, Hedge Agreements or obligations with respect to Credit Facilities; provided, however, Parity Indebtedness does not include any Bonds or any other indebtedness of the City issued from the time to time under any other indenture, trust agreement, ordinance, resolution or other instrument not secured by a pledge of Revenues.

"Paying Agent" means any paying agent for the Bonds (and may include the Trustee) and its successor or successors appointed pursuant to the provisions of any Supplemental Indenture. Unless otherwise provided in a Supplemental Indenture, the Trustee will be the Paying Agent.

"Person" means an individual, a corporation, a partnership, a general partner of a partnership, an association, a joint stock company, a trust, any unincorporated organization, or a governmental unit or its political subdivision.

"PILOT" means for any Fiscal Year the amount budgeted to be paid with respect to the System to the general fund of the City in lieu of taxes.

"Plain Par Investments" mean a Fixed Rate Investment:

- (a) Issued with not more than a De Minimis Amount of original issue discount or premium, or, if acquired on a date other than its issue date, acquired with not more than a De Minimis Amount of market discount or premium;
- (b) Issued for a price that does not include accrued interest other than pre-issuance accrued interest;
- (c) That bears interest from its issue date at a single, stated, fixed rate, with interest unconditionally payable at least annually; and
- (d) That has a lowest stated redemption price that is not less than its outstanding stated principal amount.

"Present Value" means the present value computed under the economic accrual method (using the same compounding interval and financial conventions used to compute the yield on the relevant Series of Bonds under Section 148 of the Code), of all unconditionally payable receipts to be received from and payments to be paid for an investment after the valuation date, using the Yield (as defined in the Tax Compliance Agreement) on the investment as the discount rate.

"Principal Account" means the Principal Account of the Bond Fund.

"Principal Payment Date" means any date on which a payment of principal or Accreted Value of any Bonds or any Parity Indebtedness is due.

"Principal Period" means the period from and including a Principal Payment Date to and including the day before the next Principal Payment Date, except the first Principal Period for each Series of Bonds or Parity Indebtedness will be the twelve months immediately preceding the first Principal Payment Date unless some other

period is specified in the Supplemental Indenture authorizing the Series of Bonds or the Service Contract or other document authorizing the Parity Indebtedness.

"Project" will have the meaning set forth in any Supplemental Indenture.

"Project Fund" means the project fund established under the Master Indenture.

"Rate Stabilization Fund" means the Rate Stabilization Fund established under the Master Indenture.

"Rate Stabilization Requirement" means such amount as may be established by the City pursuant to the Master Indenture, and if no such amount is established, the Rate Stabilization Requirement will be zero.

"Rating Agency" means any nationally recognized securities rating agency then rating the Bonds at the request of the City.

"Redemption Account" means the Redemption Account of the Bond Fund.

"Refunding Bonds" means a Series or portion of a Series of Bonds issued to retire or refund all or any portion of another Series of Bonds, Parity Indebtedness or other obligations of the City.

"Repair and Replacement Reserve Fund" means the repair and replacement reserve fund established under the Master Indenture.

"Replacement Reserve Requirement" means an amount to be determined by the City pursuant to Section 7.8(b) of the Master Indenture, but not less than \$1,000,000.

"Revenue Fund" means the fund established in the Master Indenture.

"Revenues" mean all revenues, receipts and other income derived or received by the City from the ownership or operation of the System including, without limitation, any investment earnings and transfers, if any, from the Rate Stabilization Fund to the Revenue Fund, but excluding (i) any gift, grant or contributions to the extent restricted by the donor or grantor to a particular purpose inconsistent with its use for the payment of Senior Debt Service or Subordinate Debt Service, (ii) proceeds derived from insurance or condemnation, and (iii) any transfers from the Revenue Fund to the Rate Stabilization Fund. Any lump sum prepayment of Revenues received by the City will be reserved by the City in a subaccount in the Revenue Fund and disbursed from the subaccount and recognized as Revenues monthly over the appropriate accrual period.

"ROI" means for any Fiscal Year the amount budgeted to be paid with respect to the System to the general fund of the City as a return on the City's investment in the System.

"Senior Debt Service" means for any period of twelve consecutive months the sum of Bond Debt Service and Parity Debt Service during the period.

"Serial Bonds" mean any Bonds of a Series which are stated to mature in annual installments including any Capital Appreciation Bonds, but not including any Term Bonds.

"Series" or "Series of Bonds" mean a separate series of Bonds issued under the Master Indenture pursuant to a Supplemental Indenture.

"Service Contracts" mean any contracts or agreements for Contracted Services entered into by the City from time to time.

"Subordinate Debt" means bonds, notes or other evidences of indebtedness of the City, including the Debt Service Component of the Cost of Contracted Services and any lease which is required to be capitalized by generally accepted accounting principles which is not a Parity Debt Service Component, secured by a pledge of Net Revenues

expressly made subordinate to the pledge of Net Revenues securing the Bonds and Parity Indebtedness or which is unsecured.

"Subordinate Debt Service" means for any period of twelve consecutive months the Debt Service Requirement with respect to any Subordinate Debt and the Debt Service Component of the Cost of Contracted Services which is not a Parity Debt Service Component.

"Subordinate Debt Service Fund" means the subordinate debt service fund established in the Master Indenture.

"Supplemental Indenture" means any indenture supplemental to or amendatory of the Master Indenture as originally executed, which is duly executed and delivered in accordance with the provisions of the Master Indenture.

"System" means the water system, owned or operated by or on behalf of the City, including but not limited to, any Project and all additions, extensions, improvements and replacements to the System, and any other utility system which may be added by the City as a part of the System pursuant to the Master Indenture, but excluding any independent utility systems hereafter owned or operated by the City and accounted for separately by the City unless made part of the System by the City.

"Term Bonds" means Bonds of a Series which are stated to mature on one date and which are subject to scheduled mandatory redemption before such date.

"Test Period" has the meaning given to it in the Indenture in connection with the issuance of Additional Bonds.

"Variable Rate Indebtedness" means any Indebtedness, interest on which is not established at the time of its issuance at a rate which is fixed until its maturity.

### **Summary of Certain Provisions of the Indenture**

The following is a brief summary of certain provisions contained in the Master Indenture and the Eighth Supplemental Indenture and does not purport to be a complete statement of all of the provisions of those documents. Reference is made to the Master Indenture and the Eighth Supplemental Indenture in their entirety for complete information on their terms and on the terms of the 2010 Bonds, the applicable security provisions and the application of the Revenues. See also "DESCRIPTION OF THE 2010 BONDS" and "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS" in the Official Statement.

#### **Definitions**

Unless defined below, all capitalized terms used in this Appendix have the meanings set forth in the foregoing section entitled "Definitions of Certain Terms."

#### **Additional Bonds**

In connection with the issuance of Additional Bonds, the City is required to file, among other things, the following documents with the Trustee:

(1) A certificate of the City dated as of the date of delivery of the Additional Bonds and signed by the City Manager or Director of Finance to the effect that to the best of his or her knowledge, upon and immediately following the issuance of the Additional Bonds, no event of default under the Indenture and no event or condition which, with notice or lapse of time or both, would become an event of default, will have occurred and be continuing or, if such an event or condition has occurred and is continuing, it will be cured upon the issuance of the Additional Bonds or upon completion of the Project to be financed with the Additional Bonds.

(2) A copy of the resolution or ordinance and an executed counterpart of the supplement to the Master Indenture authorizing the Additional Bonds, which supplement will specify, among other things, the details of the Additional Bonds and the amount, if any, to be deposited from the proceeds of sale of the Additional Bonds into the Debt Service Reserve Fund.

(3) An opinion of Bond Counsel, subject to customary exceptions and qualifications, to the effect that the issuance of the Additional Bonds has been duly authorized, that the Additional Bonds are valid and binding limited obligations of the City entitled to the benefits and security of the Master Indenture and that the interest on the Additional Bonds is excludable from gross income for purposes of federal income taxation or, if the interest is not excludable, that the issuance and the intended use of the proceeds of the Additional Bonds will have no adverse effect on the tax exempt status of interest on any other Bonds then Outstanding, the interest on which was excludable from gross income when issued.

(4) If the Additional Bonds are issued to pay the cost of acquiring, renovating, equipping or constructing improvements, extensions, additions or replacements to the System,

(a) A written statement from (i) Director of Utilities setting forth his or her estimate of the cost of the acquisition, renovation, equipping or construction (including all financing, reserves and related costs) and the date on which such acquisition, renovation, equipping or construction will be completed and (ii) the Director of Finance giving his or her opinion that the proceeds of the Additional Bonds, together with any other money available for such purpose, will be sufficient to pay the cost of the acquisition, renovation, equipping or construction; and

(b) The amount of the Net Revenues as received during any twelve (12) consecutive months of the twenty four months immediately preceding the issuance of the Bonds (the "Test Period"), as certified by the Director of Finance or the Consulting Engineer, subject to adjustment as permitted in subsection (c) below, will be equal to the revenue covenant contained in the Master Indenture for the Test Period taking into account the maximum principal and interest payments due on (i) any Bonds and Parity Indebtedness then outstanding, and (ii) the Bonds and Parity Indebtedness then proposed to be issued.

(c) Adjustments to Net Revenues permitted by the foregoing subsection, shall be certified by the Director of Finance or the Consulting Engineer to the Director of Utilities and shall be computed as follows:

(i) If the City, before the issuance of the proposed Bonds, has increased the rates, fees, rentals or other charges for the services or use of the System, the Net Revenues for the Test Period shall be adjusted to include the Net Revenues which would have been derived from the System during the Test Period as if such increased rates, fees, rentals or other charges had been in effect during the Test Period.

(ii) If the City has acquired or has contracted to acquire any privately or publicly owned existing water system, sewer system, solid waste collection and disposal system, stormwater retention system, or any other utility system that the City will consolidate with the System, the cost of which shall be paid from all or part of the proceeds of the issuance of the proposed Bonds, then the Net Revenues derived from the System during the Test Period shall be increased by adding to the Net Revenues for the Test Period the projected Net Revenues which would have been derived from the System as if such utility system had been operated by the City as part of the System during the Test Period.

(iii) If the City has entered into a contract on or before the date of the issuance of the proposed Bonds or Parity Indebtedness, with any public body whereby the City has agreed to furnish services consistent with the services performed by the System, which contract (A) is for a duration of not less than the final maturity of the Bonds or Parity Indebtedness proposed to be issued, or (B) if less than the final maturity of such Bonds or Parity Indebtedness, contain provisions obligating the party contracting with the City to pay in full its allocated share of the costs of capital improvements to the System needed to carry out the terms of the contract, then the Net Revenues of the System during the Test Period shall be increased by the least amount which the entity receiving such services shall be required to pay by the terms of the contract in any one year during which the City is to furnish services and such Bonds or Parity Indebtedness are anticipated to be Outstanding, after deducting from such payment the estimated proportion of operating expenses and repair, renewal and replacement cost attributable in such year to such services.

(iv) If there is an estimated increase in Revenues to be received by the City, as a result of additions, extensions or improvements to the System during the period of three years after delivery of the Bonds and the governing body of the City has by ordinance or resolution authorized the additions, extensions or improvements (and if such additions, extensions or improvements involve another jurisdiction, the governing body of such other jurisdiction has also given its approval by ordinance or resolution), then the Net Revenues derived from the System during the Test Period will be increased by the estimated average annual additional Net Revenues for the first two full years after such additions, improvements or extensions have been placed in service.

In connection with any Net Revenue adjustment permitted by subparagraphs (ii), (iii) or (iv) above, the City may take into account any increases in rates, fees or charges that have been approved by the City at the time of certification.

(5) If the Additional Bonds are issued to refund any of the Bonds or other Parity Indebtedness of the City issued under the Indenture,

(a) Evidence satisfactory to the Trustee that the City has made provision as required by the Indenture for the payment or redemption of all Bonds or Parity Indebtedness of the City to be refunded;

(b) A written determination by the Trustee or by a firm of independent certified public accountants that the proceeds (excluding accrued interest) of the refunding bonds, together with any other money deposited with the Trustee for such purpose and the investment income to be earned on funds held by the Trustee for the payment or redemption of Bonds or Parity Indebtedness, will be sufficient to pay, whether upon redemption or at maturity, the principal of and premium, if any, and interest on the Bonds or Parity Indebtedness to be refunded and the estimated expenses incident to the refunding; and

(c) (i) A written determination by the Trustee or by a firm of independent certified public accountants that after the issuance of the refunding bonds and the provision for payment or redemption of all Bonds or Parity Indebtedness of the City to be refunded, the Senior Debt Service for each Fiscal Year in which there will be Outstanding Bonds of any Series not to be refunded will be not more than the Senior Debt Service for the Fiscal Year would have been on all Outstanding Bonds and Parity Indebtedness immediately before the issuance of the refunding bonds, including the Bonds and Parity Indebtedness of the City to be refunded; or (ii) in the case of Refunding Bonds issued to refund Parity Indebtedness issued under the Master Indenture in the form of Bond Anticipation Notes, the City shall provide the written certification required in 4(b) above.

(6) If the Additional Bonds are issued to refund obligations of the City with respect to the System other than Bonds or Parity Indebtedness, the certifications similar to those required in 5(a) and 4(b) above.

The proceeds of Additional Bonds (including accrued interest) will be applied as set forth in the Eighth Supplemental Indenture authorizing their issuance.

### **Parity Indebtedness**

The City may designate the Debt Service Component of the Cost of Contracted Services as Parity Indebtedness and may issue or refinance other Parity Indebtedness provided the requirements of paragraphs (4) or (5), as appropriate, for the issuance of Additional Bonds are met as if the Parity Indebtedness was a series of Additional Bonds. Parity Indebtedness will be secured by the pledge of Net Revenues under the Indenture on a parity with Bonds issued under the Indenture, except Parity Indebtedness will not be secured by money in the Project Fund, the Bond Fund or the Debt Service Reserve Fund.

### **Subordinate Debt**

Nothing in the Indenture prohibits or prevents the City from issuing Subordinate Debt for any lawful purpose payable from and secured by a pledge of Net Revenues subject and subordinate to the payment of any Bonds and Parity Indebtedness; provided, however, any Subordinate Debt may only be declared immediately due and payable if payment of the Bonds and Parity Indebtedness has been accelerated in accordance with the Indenture.

### **Establishment of Funds and Accounts**

The following funds are established under the Indenture, to be held as follows:

- (1) City of Norfolk, Virginia, Project Fund, to be held by or at the direction of the City;
- (2) City of Norfolk, Virginia, Revenue Fund, to be held by or at the direction of the City;
- (3) City of Norfolk, Virginia, Operating Fund, to be held by or at the direction of the City;
- (4) City of Norfolk, Virginia, Bond Fund, in which there is established an Interest Account, a Principal Account and a Redemption Account and a Capitalized Interest Account, to be held by the Trustee;
- (5) City of Norfolk, Virginia, Parity Debt Service Fund, to be held by or at the direction of the City;
- (6) City of Norfolk, Virginia, Debt Service Reserve Fund, to be held by the Trustee;
- (7) City of Norfolk, Virginia, Subordinate Debt Service Fund, to be held by or at the direction of the City;
- (8) City of Norfolk, Virginia, Repair and Replacement Reserve Fund, to be held by or at the direction of the City;



- (9) City of Norfolk, Virginia, Rate Stabilization Fund, to be held by or at the direction of the City; and
- (10) City of Norfolk, Virginia, General Reserve Fund, to be held by or at the direction of the City.

### **Project Fund**

The proceeds of the 2010 Bonds will be deposited in the Project Fund and used to pay costs of the 2010 Project. The City will maintain for each Series of Bonds a separate subaccount. Net Proceeds used to repair, restore or reconstruct the System will also be deposited in the Project Fund and maintained within separate subaccounts for each Series of Bonds.

### **Revenue Fund**

The City will collect and deposit in the Revenue Fund as received all Revenues. Money on deposit in the Revenue Fund will be used as follows:

- (1) To make monthly deposits to the Operating Fund in an amount such that the balance on deposit in the Fund will be equal to not less than one sixth of the Operating Expenses budgeted to be paid from the Fund in the current Annual Budget;
- (2) To make equal monthly deposits to the Bond Fund and Parity Debt Service Fund so that there will be sufficient money in the Funds to pay the Bonds and Parity Indebtedness when due;
- (3) To restore any deficit in the Debt Service Reserve Fund;
- (4) To make deposits to the Subordinate Debt Service Fund of amounts determined by the City to be necessary to pay Subordinate Debt when due;
- (5) To make deposits to the Repair and Replacement Reserve Fund to accumulate the Replacement Reserve Requirement in thirty six approximately equal installments and then to restore any deficit in sixty approximately equal monthly installments;
- (6) To make other deposits to the Repair and Replacement Reserve Fund in amounts determined by the City;
- (7) To make deposits to the Rate Stabilization Fund to accumulate the Rate Stabilization Requirement in twenty four approximately equal installments and thereafter to restore any deficit in such Fund in the same number of installments; and
- (8) To make deposits of any remaining balance to the General Reserve Fund.

### **Operating Fund**

The City will pay Operating Expenses from the Operating Fund as they become due and in accordance with the purposes and amounts provided in the Annual Budget. In the event the balance in the Operating Fund is insufficient for its purposes, the City will transfer to the Operating Fund such amounts as may be necessary first from the General Reserve Fund and then from the Repair and Replacement Reserve Fund. The City may also make transfers from the Rate Stabilization Fund to the Operating Fund to cover any deficit and may do so before, in combination with, or in lieu of transfers from the General Reserve Fund and the Repair and Replacement Reserve Fund. Interest received on and any profit realized from the investment of money in the Operating Fund will be transferred as earned to the Revenue Fund.

## **Bond Fund**

The Trustee will pay the principal of and interest on the Bonds when due from the Principal Account and the Interest Account, respectively. The Trustee will use money in the Redemption Account of the Bond Fund to redeem Bonds pursuant to any optional redemption provision exercised by the City. In the event the balances on deposit in the Principal Account or the Interest Account are insufficient, the Trustee will transfer to such Accounts the amount necessary to pay the Bonds from the Debt Service Reserve Fund after making transfers first from the General Reserve Fund, the Repair and Replacement Reserve Fund and the Rate Stabilization Fund. Interest received on and any profit realized from the investment of money in the Bond Fund will become a part of the account in the Bond Fund in which the investment is held.

## **Parity Debt Service Fund**

The City will use money in the Parity Debt Service Fund to make payments on any Parity Indebtedness when due. Interest received on and any profit realized from the investment of money in the Parity Debt Service Fund will be deposited when received in the Revenue Fund. Amounts in the Parity Debt Service Fund do not secure the Outstanding Series of Bonds, and will not secure the 2010 Bonds or any Additional Bonds.

## **Debt Service Reserve Fund**

The Debt Service Reserve Fund will be used by the Trustee to make transfers to the Bond Fund to the extent necessary to pay the principal of and interest on the Bonds when due if the amounts on deposit in the Principal and Interest Accounts of the Bond Fund, and any amounts transferred by the City to the Debt Service Reserve Fund from the General Reserve Fund and the Repair and Replacement Reserve Fund are insufficient for such purpose. In the event the amount on deposit in the Debt Service Reserve Fund is less than the Debt Service Reserve Requirement, the City will transfer funds from the Revenue Fund to the Debt Service Reserve Fund to restore the Debt Service Reserve Requirement in the manner provided in the Master Indenture. If the balance in the Debt Service Reserve Fund is equal to the Debt Service Reserve Fund Requirement, any interest received and profit realized from the investment of money in the Debt Service Reserve Fund will be transferred to the Interest Account of the Bond Fund, unless otherwise provided in any Supplemental Indenture.

In lieu of maintaining and depositing money or securities in the Debt Service Reserve Fund, the City may deposit with the Trustee a letter of credit, bond insurance policy or surety bond in an amount equal to all or a portion of the Debt Service Reserve Requirement, provided the issuer of the letter of credit or surety bond or the bond insurer, as appropriate, is rated in one of the two highest long term debt rating categories by the Rating Agencies then rating the Bonds, without regard to any refinement or gradation of such rating category by numerical modifier or otherwise. Any letter of credit, bond insurance policy or surety bond will permit the Trustee to draw or obtain amounts under it for deposit in the Debt Service Reserve Fund that, together with any money already on deposit in the Debt Service Reserve Fund, are not less than the Debt Service Reserve Requirement.

The Trustee will make a drawing on the letter of credit or obtain funds under the bond insurance policy or surety bond before its expiration or termination (1) whenever money is required for the purposes for which Debt Service Reserve Fund money may be applied and (2) unless the letter of credit or bond insurance policy has been extended or a qualified replacement for it delivered to the Trustee, in the event the City has not deposited money in immediately available funds equal to the Debt Service Reserve Requirement at least two Business Days preceding the expiration or termination of the letter of credit, bond insurance policy or surety bond.

If the City provides the Trustee with a letter of credit, bond insurance policy or surety bond, the Trustee will transfer the funds then in the Debt Service Reserve Fund to the City, provided the City delivers to the Trustee an opinion of Bond Counsel that such transfer of funds will not adversely affect the exclusion from gross income for purposes of federal income taxation of interest on any 2010 Bonds and the City covenants to comply with any directions or restrictions contained in such opinion concerning the use of the funds.

### **Subordinate Debt Service Fund**

The City will use money in the Subordinate Debt Service Fund to make payments of debt service on any Subordinate Debt when due. Interest received on and any profit realized from the investment of money in the Subordinate Debt Service Fund will be deposited when received in the Revenue Fund.

### **Repair and Replacement Reserve Fund**

The City may use amounts in the Repair and Replacement Reserve Fund for any of the following purposes:

- (1) Reasonable and necessary expenses with respect to the System for major repairs, replacement or maintenance of items of a type not recurring annually;
- (2) To pay costs of reconstruction of parts of the System;
- (3) To pay costs of construction of parts of the System;
- (4) To pay any capital costs with respect to the System;
- (5) To make payments on Service Contracts; or
- (6) To make deposits to the Revenue Fund, the Operating Fund, the Bond Fund, the Parity Debt Service Fund or the Debt Service Reserve Fund.

At least biennially, the City agrees to review the adequacy of the amount of the Replacement Reserve Requirement under then current operating conditions, and in light of then applicable operating, replacement and maintenance costs of the major components of comparable systems. If at any time the City determines in its judgment that the amount of the Replacement Reserve Requirement should be increased or decreased, it will notify the Trustee of its determination setting forth the amount of the new Replacement Reserve Requirement. The new Replacement Reserve Requirement will take effect on the date of the receipt of the notice by the Trustee unless some other effective date is specified in the notice in which case the date specified in the notice will control. In no event will such requirement be reduced below \$1,000,000.

If the amount on deposit in the Repair and Replacement Reserve Fund exceeds the Replacement Reserve Requirement, the City may transfer the excess to the Rate Stabilization Fund or the General Reserve Fund.

### **Rate Stabilization Fund**

The City may at its option make transfers from the Rate Stabilization Fund to the Revenue Fund and amounts so transferred will be deemed Revenues. Interest earnings or any profit from investing the Rate Stabilization Fund will be transferred at least monthly to the Revenue Fund.

The City may at any time reduce or increase the balance in the Rate Stabilization Fund to any amount, including zero upon certification of the Director of Finance setting forth the amount to be withdrawn or added. Upon satisfaction of the requirements set forth above, the amount of the reduction in the Rate Stabilization Fund will be transferred from the Rate Stabilization Fund to the Revenue Fund, unless otherwise specified in a Supplemental Indenture.

### **General Reserve Fund**

Money on deposit in the General Reserve Fund may be used for any lawful purpose. The City has agreed to use money in the General Reserve Fund to cure deficits in the Operating Fund, the Bond Fund, the Parity Debt Service Fund and the Debt Service Reserve Fund. Money in the General Reserve Fund is not pledged to secure the Bonds or Parity Indebtedness.

## Investments

Any money held in any funds and accounts established by the Indenture, except the Bond Fund and the Debt Service Reserve Fund, may be separately invested and reinvested by the Trustee, at the request of and as directed by an Authorized Representative of the City, in any of the following investments which are at the time legal investments for public funds under the Investment of Public Funds Act, Chapter 18, Title 2.1, Code of Virginia of 1950, as amended ("Investment Act"), or any subsequent provision of law applicable to such investments:

(1) Bonds, notes and other evidences of indebtedness to which the full faith and credit of the Commonwealth is pledged for the payment of principal and interest or which are unconditionally guaranteed as to the payment of principal and interest by the Commonwealth and which are rated on one of the two highest debt rating categories by at least one of the Rating Agencies;

(2) Government Obligations;

(3) Government Certificates;

(4) Bonds, notes and other evidences of indebtedness of any county, city, town, district, authority or other public body of the Commonwealth which are rated in one of the two highest long term debt rating categories by at least one of the Rating Agencies;

(5) Savings accounts, time deposits and certificates of deposit in any Bank, including the Trustee and its affiliates, or savings and loan association within the Commonwealth, provided that the funds are secured in the manner required by the Virginia Security for Public Deposits Act or any successor legislation and no deposit will be made for more than five years;

(6) Obligations of the Export Import Bank, the Farmers Home Administration, the General Services Administration, the United States Maritime Administration, the Small Business Administration, the Government National Mortgage Association, the Department of Housing and Urban Development and the Federal Housing Administration, provided such obligations represent the full faith and credit of the United States;

(7) Bonds, notes or other evidences of indebtedness of the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, the Federal Home Loan Bank and the Federal Farm Credit Bank;

(8) Commercial paper issued by corporations, including banks and bank holding companies, organized under the laws of the United States or any State which is rated by Moody's Investors Service, Inc., or its successor, within its NCO/Moody's rating of prime 1 and by Standard & Poor's Ratings Services, or its successor, within its rating of A 1, and which matures not more than 270 days after the date of its purchase;

(9) Corporate notes with a rating of at least Aa by Moody's and AA by Standard & Poor's Ratings Services with a maturity of not more than five years;

(10) Banker's acceptance, as permitted by the Investment Act, with banks rated in one of the two highest debt rating categories by at least one of the Rating Agencies;

(11) Investments pursuant to the Government Non Arbitrage Act, Article 7.1, Chapter 14, Title 2.1 of the Virginia Code; and

(12) Such other investments as may be permitted by the Investment Act; provided they are rated within one of the two highest rating categories by at least one of the Rating Agencies.

Any money held by the Trustee in the Bond Fund will be separately invested and reinvested by the Trustee, at the request of and as directed by an Authorized City Representative, only in investments described in subsections (1), (2), (3), (4) and (5) above, which are at the time legal investments for public sinking funds under the Investment Act, or any subsequent provisions of law applicable to such investments.

Any money held by the Trustee in the Debt Service Reserve Fund will be separately invested and reinvested by the Trustee, at the request of and as directed by an Authorized City Representative, only in investments described in subsections (1), (2), (3), (4), (5), (6) and (7) above.

Any investments described above may be purchased by the Trustee or the City pursuant to an overnight term or open repurchase agreement in accordance with the provisions of the Indenture.

Investments in a money market fund or in the shares of any other management type investment company registered under the Investment Company Act of 1940, the investments of which fund or company are exclusively in obligations or securities described in paragraphs (1), (2), (3), (4), (6) or (7) above, will be considered investments in obligations described in such subsections, provided that the fund or company, which investments are comprised exclusively of the obligations described in subsections (1), (4) or (7), is rated in the highest debt rating category by at least one of the Rating Agencies.

Subject to the provisions of any Supplemental Indenture, all investments will be held by or under the control of the Trustee or the City, as the case may be, and while so held will be deemed a part of the fund or account in which the money was originally held. Except as otherwise specifically provided in the Master Indenture or any Supplemental Indenture, the interest received on and any profit realized from such investments will be transferred not less frequently than monthly to the City for deposit in the Revenue Fund. The Trustee and the City will sell and reduce to cash a sufficient amount of such investments whenever the cash balance in any fund or account is insufficient for its purpose.

Investments of money in the Debt Service Reserve Fund must mature or be payable at the option of the Trustee for purposes of the Debt Service Reserve Fund not more than 10 years after the date of their purchase.

Money in funds and accounts held by the City may be pooled and commingled for purposes of investment.

Investments are subject to change to the extent and in the manner permitted by subsequent modification or amendment to the Investment Act; provided, however, any rating limitations imposed by the Indenture on a particular type or category of investment will apply to any additional permitted investments of the same or similar type or category.

### **Particular Covenants**

Compliance with Indenture; Payment of Bonds. In the Indenture, the City covenants to perform its obligations under the Indenture and related documents and to pay the Bonds, but only from the Net Revenues and other funds specifically pledged for such purpose.

Revenue Covenant. The City will establish, fix, charge and collect rates, fees and other charges for the use of and for the services furnished by the System, and will, from time to time and as often as appears necessary, revise such rates, fees and other charges, so that in each Fiscal Year Net Revenues are not less than the greater of (i) the sum of 1.1 times Senior Debt Service and 1.0 times Subordinated Debt Service for the Fiscal Year and (ii) 1.0 times the funding requirements for transfers from the Revenue Fund to the Operating Fund, the Bond Fund, the Parity Debt Service Fund, the Debt Service Reserve Fund, the Subordinate Debt Service Fund and the Repair and Replacement Reserve Fund as set forth in the Master Indenture.

Billing; Enforcement of Charges; Free Service. The City will bill the users of the services of the System no less frequently than quarterly, except in the case of wholesale customers who will be billed as provided in the contract between the City and the wholesale customer. The City has agreed to take all appropriate steps to enforce collection of any overdue charges by any remedy available at law or in equity. The City will not permit connection with or the use of the System, or furnish any services of the System, without making a charge based on the City's schedule of rates, fees and charges, except for connections and service for fire protection purposes.

Sale or Encumbrance. The City may grant easements, licenses or permits across, over or under parts of the System for streets, roads and utilities as will not adversely affect the use of the System. The City may sell or

otherwise dispose of any property constituting a part of the System which is either no longer needed or useful or is replaced from the proceeds of the disposition and any other necessary money with property serving the same or similar function. If the proceeds received from a sale or disposition not used to replace property exceeds \$100,000, the proceeds will at the option of the City be (1) applied to the payment or redemption of Bonds then Outstanding and Parity Indebtedness in a manner which in the opinion of Bond Counsel will not adversely affect the exclusion from gross income for purposes of federal income taxation of interest on any Bonds the interest on which was excludable on the date of their issuance or (2) deposited in the Repair and Replacement Reserve Fund and applied solely to pay the costs of capital improvements to the System. The City may transfer all or substantially all of the assets of the System to an authority or special purpose political subdivision; provided, the City's obligations under the Indenture are assumed in writing, the City receives an Opinion of Bond Counsel that the exempt status of the interest income on the Bonds will not be adversely affected and upon compliance with certain other conditions in the Indenture. The City may add to the System sewer systems, solid waste systems, storm water systems and other utilities on certain terms and conditions set forth in the Indenture similar to those regarding the transfer of System assets.

Creation of Liens. The City has agreed not to create or suffer to be created any lien or charge upon the System, except as provided in the Indenture.

Insurance. To the extent such insurance is available at reasonable costs, the City has agreed to continuously maintain and pay the premiums on insurance against such risks as are customarily insured against by other entities owning and operating similar systems.

Damage, Destruction, Condemnation and Loss of Title. If all or any part of the System is destroyed or damaged by fire or other casualty, condemned or lost by failure of title, the City will restore promptly the property damaged or destroyed to substantially the same condition as before the damage, destruction, condemnation or loss of title with such alterations and additions as the City may determine and which will not impair the capacity or character of the System for the purpose for which it then is being used or is intended to be used. The Trustee will apply as much as may be necessary of the Net Proceeds received on account of any the damage, destruction, condemnation or loss of title to payment of the cost of such restoration, either on completion or as the work progresses. If the Net Proceeds are not sufficient to pay in full the cost of the restoration and other funds are not available for such purpose, the City will pay from the Repair and Replacement Reserve Fund or the General Reserve Fund so much of the cost as may be in excess of such Net Proceeds. Any balance of Net Proceeds remaining after payment of the cost of restoration will be deposited in the Repair and Replacement Reserve Fund.

Financial Records and Statements. The City will keep proper books of records and accounts, in which full and correct entries will be made in accordance with generally accepted accounting principles, of all of its business and affairs. The City will cause an audit of its records and accounts to be made by an independent certified public accountant at the end of each Fiscal Year.

Arbitrage and Tax Covenants. The City has covenanted that it will comply throughout the term of the 2010 Bonds with the requirements of Section 148 of the Code applicable to them, including the rebate and reporting requirements of Section 148(f), and that the City will not take or omit to take any action that would cause interest on any of the 2010 Bonds to be or to become includable in the gross income of the Owners for purposes of federal income taxation.

## **Events of Default**

Each of the following events is an Event of Default under the Indenture:

- (1) Payment of any interest on any Bond or Parity Indebtedness is not made when due and payable;
- (2) Payment of the principal of or premium, if any, on any Bond or Parity Indebtedness is not made when due and payable;

(3) Subject to certain rights of the City to cure such defaults as set forth in the Master Indenture, default in the observance or performance of any other covenant, condition or agreement on the part of the City under the Master Indenture, any Supplemental Indenture, in the Bonds or any document under which Parity Indebtedness has been issued; or

(4) Appointment by a court of competent jurisdiction of a receiver for all or any substantial part of the Revenues and other funds of the City pledged pursuant to the Master Indenture, or the filing by the City of any petition for reorganization of the City or rearrangement or readjustment of the obligations of the City under provisions of any applicable bankruptcy or insolvency law.

### **Remedies; Rights of Bondholders**

Upon the occurrence and continuation of an event of default under the Indenture, the Trustee may, and if requested by the Owners of not less than 25% in aggregate principal amount of Bonds and Parity Indebtedness then Outstanding will, by notice to the City, declare the entire unpaid principal of, Accreted Value of and interest on the Bonds and Parity Indebtedness due and payable. Upon any such declaration the City will pay to the Owners the entire unpaid principal of and accrued interest on the Bonds and Parity Indebtedness, but only from the Net Revenues and the other funds specifically pledged in the Indenture for such purpose.

Upon the occurrence and continuation of an event of default under the Indenture the Trustee may pursue any available remedy, at law or in equity, to enforce the payment of the principal of, Accreted Value of, premium, if any, and interest on the Bonds and Parity Indebtedness, to enforce any covenant or condition under the Indenture or to remedy any event of default.

Upon the occurrence and continuation of an event of default under the Indenture, if requested to do so by the Owners of at least 25% in aggregate principal amount of Bonds and Parity Indebtedness then Outstanding and if indemnified as provided in the Indenture, the Trustee will exercise such of the rights and powers conferred by the Indenture as the Trustee, upon being advised by counsel, deems most effective to enforce and protect the interests of the Owners.

Anything in the Indenture to the contrary notwithstanding the Owners of a majority in aggregate principal amount of Bonds and Parity Indebtedness then Outstanding will have the right, upon providing satisfactory security and indemnity to the Trustee, by an instrument in writing executed and delivered to the Trustee, to direct the method and place of conducting all remedial proceedings to be taken by the Trustee under the Indenture.

No Owner of any Bonds or Parity Indebtedness will have any right to institute any suit action or proceeding in equity or at law for the enforcement of the Indenture or any remedy under the Indenture or the Bonds except as expressly provided in the Indenture.

### **Waiver of Events of Default**

The Trustee will waive any event of default under the Indenture and its consequences and rescind any declaration of acceleration upon the written request of the Owners of a majority in aggregate principal amount of all Outstanding Bonds and Parity Indebtedness. If any event of default with respect to the Bonds and Parity Indebtedness has been waived as provided in the Master Indenture, the Trustee will promptly give written notice of the waiver to the City and by first class mail, postage prepaid, to all Owners of Outstanding Bonds and Parity Indebtedness if the Owners had previously been given notice of the event of default. No waiver, rescission and annulment will extend to or affect any subsequent event of default or impair any right, power or remedy available under the Master Indenture.

### **Discharge of Indebtedness**

If (1) all Bonds and Parity Indebtedness secured by the Indenture have become due and payable or irrevocable instructions to redeem the Bonds and Parity Indebtedness or to pay them at maturity have been given by the City to the Trustee and (2) the Trustee holds cash or noncallable Government Obligations or Government

Certificates the principal of, Accreted Value of, and the interest on which at maturity will be sufficient (i) to redeem in accordance with the relevant section of the Indenture all Bonds and Parity Indebtedness that have been called for redemption on the date set for such redemption, (ii) to pay at maturity all Bonds and Parity Indebtedness not irrevocably called for redemption, (iii) to pay interest accruing on all Bonds and Parity Indebtedness until their redemption or payment at maturity, and (iv) to pay to the Trustee its reasonable fees and expenses, including the costs and expenses of cancelling and discharging the Indenture, the Trustee will cancel and discharge the Indenture, and assign and deliver to the City any property at the time subject to the Indenture that may then be in its possession, except funds or securities in which such funds are invested which are held by the Trustee for the payment of principal of, Accreted Value of, or premium, if any, or interest on the Bonds and Parity Indebtedness.

Bonds and Parity Indebtedness will be deemed paid and no longer Outstanding for the purposes of the Indenture when there has been deposited with the Trustee cash or noncallable Government Obligations or Government Certificates the principal of, Accreted Value of, and interest on which will be sufficient to pay or redeem such Bonds and Parity Indebtedness and to pay interest on them to their payment or redemption date (whether on or before the date of their maturity or their redemption date), however, that if such Bonds and Parity Indebtedness are to be redeemed before their maturity, notice of the redemption must have been duly given or irrevocable instructions to redeem such Bonds and Parity Indebtedness must have been given to the Trustee.

### **Modification or Amendment of the Indenture**

The City and the Trustee may, without consent of, or notice to, any of the Owners, enter into an agreement or agreements supplemental to the Indenture for any one or more of the following purposes:

- (1) To add to the covenants and agreements of the City contained in the Master Indenture and any Supplemental Indentures other covenants and agreements, and to surrender any right or power in the Master Indenture and any Supplemental Indentures reserved to or conferred upon the City;
- (2) To cure any ambiguity, to supply any omission or to cure, correct or supplement any defect or inconsistent provisions contained in the Master Indenture or any Supplemental Indenture;
- (3) To grant to the Trustee for the benefit of the Owners additional rights, remedies, powers or authority;
- (4) To subject to the Master Indenture and the Supplemental Indentures additional collateral;
- (5) To modify the Master Indenture, any Supplemental Indenture, or the Bonds or Parity Indebtedness to permit qualification under the Trust Indenture Act of 1939 or any similar federal statute at the time in effect, or to permit the qualification of the Bonds for sale under the securities laws of any state of the United States;
- (6) To provide for uncertificated Bonds or Parity Indebtedness;
- (7) To evidence the succession of a new Trustee or Paying Agent or the appointment by the Trustee or the City of a Co Trustee or a Co Paying Agent and to specify the rights and obligations of such Co Trustee or Co Paying Agent;
- (8) To make any change (including but not limited to a change to reflect any amendment to the Code or interpretations of it by the United States Department of the Treasury or the Internal Revenue Service) that in the opinion of the Trustee does not materially adversely affect the rights of any Owner of any Bonds or Parity Indebtedness;
- (9) To make any modifications or changes necessary or appropriate to issue an additional Series of Bonds or any Parity Indebtedness; or
- (10) To make any modifications or changes necessary or appropriate to permit Bonds of any Series or Parity Indebtedness to be secured by a credit or liquidity facility or to accommodate the issuance of Bonds or Parity



Indebtedness bearing variable interest rates, including the addition of provisions for the appointment of tender agents and similar parties and the specification of the duties and powers of such parties that in the opinion of the Trustee does not materially adversely affect the rights of any Owner of any Bonds or Parity Indebtedness.

Any other modification or alteration of the Master Indenture and any Supplemental Indenture or the rights and obligations of the City or of the Owners of the Bonds or Parity Indebtedness may be made by the City and the Trustee with the consent of (1) the Owners of a majority in aggregate principal amount of the Bonds and Parity Indebtedness then Outstanding; or (2) in case less than all of the Bonds and Parity Indebtedness then Outstanding are affected by the modifications or amendments, the Owners of a majority in aggregate principal amount of the Bonds and Parity Indebtedness so affected then Outstanding. However, without the consent of each Owner affected, no modification or alteration may (i) extend the maturity of the principal of, or interest on, any Bond or Parity Indebtedness, (ii) reduce the principal amount of, or rate of interest on, any Bond or Parity Indebtedness, (iii) effect a privilege or priority of any Bond or Bonds over any other Bond or Bonds, (iv) reduce the percentage of the principal amount of the Bonds or Parity Indebtedness required for consent to such modification or alteration, (v) if applicable, impair the exclusion of interest on any Bonds or Parity Indebtedness from gross income for purposes of federal income taxation, (vi) eliminate or extend the mandatory redemption date of any Bonds or Parity Indebtedness or reduce the redemption price of Bonds or Parity Indebtedness, (vii) create a lien ranking prior to or on a parity with the lien of the Master Indenture or (viii) deprive any Owner of the lien created by the Master Indenture on such property.

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**CERTAIN INFORMATION CONCERNING THE CITY**

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## THE CITY OF NORFOLK

### INTRODUCTION

The City of Norfolk was established as a town in 1682, as a borough in 1736 and incorporated as a city in 1845. The City lies at the mouth of the James and Elizabeth Rivers and the Chesapeake Bay, and is adjacent to the Atlantic Ocean and the cities of Virginia Beach, Portsmouth and Chesapeake.

**Table D-1**  
**City of Norfolk, Virginia**  
**Area of City**

<u>Year</u>	<u>Square Miles</u>
1950.....	37.19
1960.....	61.85
1970.....	61.85
1980.....	65.75
1990.....	65.98
2000.....	65.98
2010.....	65.98

### CITY GOVERNMENT

Norfolk is an independent, full-service City with sole local government taxing power within its boundaries. It derives its governing authority from a charter (the "Charter"), originally adopted by the General Assembly of Virginia (The "General Assembly") in 1918, which authorizes a council-manager form of government. The City Council exercises all of the governmental powers conferred upon the City. Having sought and gained approval from the U.S. Justice Department and the General Assembly, the City gave its citizens the right to elect their Mayor directly, effective May 2006. Previously the City's Mayor had been chosen by the City Council from among its members. This change added an eighth member to the City Council, with the Mayor elected at large, and retained the then-current seven wards with two members elected from City-wide super wards. The City Council elects a Vice Mayor from among its members. Among the City officials appointed by the City Council is the City Manager, the administrative head of the municipal government. The City Manager carries out the City's policies, directs business procedures and appoints, with the power to remove, the heads of departments and other employees of the City except those otherwise specifically covered by statutory provisions. The City Council also appoints certain boards, commissions and authorities of the City.

#### Certain Elected Officials

The City's current elected officials include:

#### **Paul D. Fraim, Mayor**

In May 2006 Mayor Fraim became the City's first popularly elected mayor in nine decades. Mayor Fraim is a 24-year incumbent on City Council, and was first elected Mayor by his peers in 1994. He is the president of the law firm Fraim & Fiorella, P.C., and was first elected to City Council in 1986. He has a Bachelor of Arts degree from Virginia Military Institute, Lexington, Virginia, and a Masters in Education degree from the University of Virginia, Charlottesville, Virginia. He received his law degree from the University of Richmond, Richmond, Virginia. Mayor Fraim is an active member of the Virginia State Bar, the Virginia Bar Association and the Norfolk-Portsmouth Bar Association and has held a number of leadership positions in these organizations.

**Anthony L. Burfoot, Vice Mayor**

Mr. Burfoot, representing Ward 3, was first elected to City Council in July 2002. He is employed by New York Life as a licensed Life and Annuities Health Agent. Additionally, he is an adjunct faculty member at Tidewater Community College. He received a Bachelor of Science degree in Public Administration and a Master's degree in Educational and Administrative Supervision from Virginia State University, Petersburg Virginia. He is involved in many civic and business activities.

**Alveta V. Green, Council Member**

Mrs. Green, representing Super Ward 7, was appointed by City Council on July 8, 2010, to the vacant Super Ward 7 seat until a special election is held on November 2, 2010. Mrs. Green served as an early childhood teacher in the City for 34 years. Following her career as a teacher, Mrs. Green served for seven years on the City's School Board. She received a Bachelor of Science degree from Virginia State University, Petersburg, Virginia. Mrs. Green is currently a member of the Virginia State University Alumni Board of Directors.

**Andrew A. Protogyrou, Council Member**

Mr. Protogyrou, representing Ward 1, was first elected to City Council on May 4, 2010. Mr. Protogyrou is an attorney and a member of Protogyrou & Rigney, P.L.C. He has a Bachelor of Arts degree from Virginia Military Institute, Lexington, Virginia, and he received his law degree from the University of Richmond, Richmond, Virginia. Mr. Protogyrou is an active in many local professional and civic organizations, where he has held a number of leadership positions.

**Paul R. Riddick, Council Member**

Mr. Riddick, representing Ward 4, was first elected to City Council in July 1992. He is the owner and operator of Riddick Funeral Service. He attended Norfolk State University, Norfolk, Virginia, and has an Associates in Art and Sciences degree in Funeral Service from John Tyler Community College, Chester, Virginia. Mr. Riddick is active in many local professional organizations.

**Thomas R. Smigiel, Council Member**

Mr. Smigiel, representing Ward 5, was first elected to City Council on May 4, 2010. He received a Bachelor of Science degree in Education from Old Dominion University, Norfolk, Virginia, and a Master's degree in School Administration from Cambridge College's Regional Center, Chesapeake, Virginia. He is currently an Assistant Principal at Lake Taylor High School in Norfolk. He is involved in many local professional and civic organizations, where he has held a number of leadership positions.

**Dr. Theresa W. Whibley, Council Member**

Dr. Whibley, representing Ward 2, was first elected to City Council in July 2006. She is an obstetrician and gynecologist in private practice at Woman Care Centers, PLC in Norfolk. Dr. Whibley is a graduate of Eastern Virginia Medical School, Jones Institute of Reproductive Medicine, Old Dominion University, and the College of William and Mary. Dr. Whibley is active in many local professional organizations.

**Barclay C. Winn, Council Member**

Mr. Winn, representing Super Ward 6, was first elected to City Council in July 2000. He is the Chief Executive Officer of Winn Nursery of Virginia, Inc. He received a Bachelor of Science degree from North Carolina State University, Raleigh, North Carolina. Mr. Winn is active in many civic and business activities.

## **Certain Appointed Officials**

### **Regina V.K. Williams, City Manager**

Regina V.K. Williams assumed the post of Norfolk City Manager in January 1999. Her responsibilities include the supervision of the administrative operations of the City and the preparation of its annual budget. She served as City Manager for the City of San Jose, California for five years and previously served as Assistant City Manager for five years. Prior to serving in San Jose, Mrs. Williams was Deputy City Manager and Chief of Staff for the City of Richmond, Virginia. In 1982, Mrs. Williams was appointed by then Virginia Governor Charles Robb as the first female and first African American to be State Director of Personnel and Training. In 1991, she was inducted as a fellow into the National Academy of Public Administration. In 1988, Mrs. Williams was elected to vice-president of the Board of Directors for the International City-County Management Association ("ICMA"). She was awarded the designation of manager of the year in September 2002 by ICMA. Mrs. Williams also served as the President of the National Forum of Black Public Administrators from 1995 through 1996 and is a founder and former President of the Richmond, Virginia Chapter of the Conference of Minority Public Administrators. She earned her Bachelor of Science degree from Eastern Michigan University, Ypsilanti, Michigan and a Masters degree in Public Administration from Virginia Commonwealth University, Richmond, Virginia.

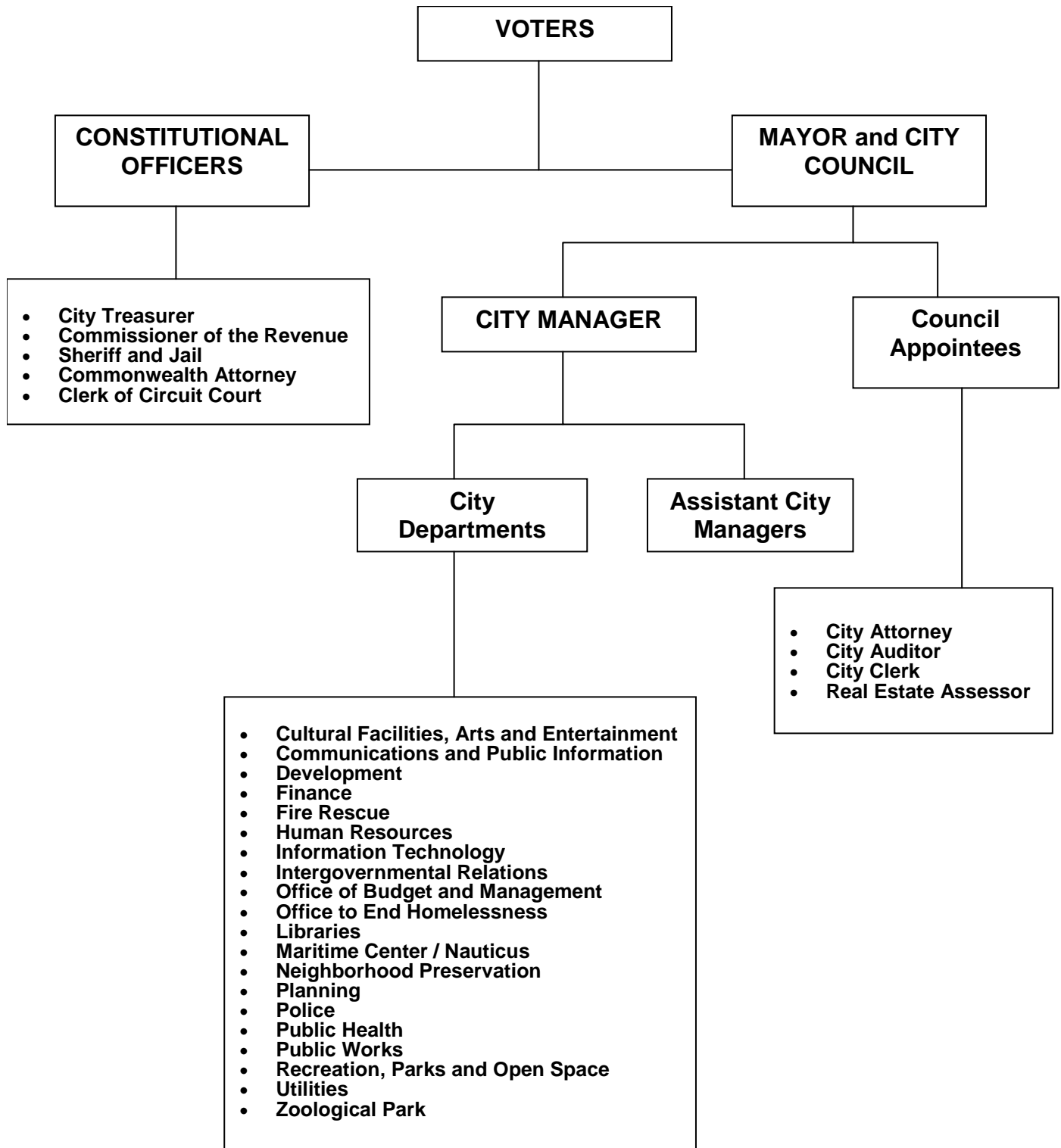
### **Darrell V. Hill, Director of Finance**

Darrell V. Hill commenced his tenure as Director of Finance & Business Services on August 31, 2009. At the direction of the City Manager, he is responsible for identifying strategic opportunities for the City in the policy areas of taxation, financial management and fiscal policy development. In addition, he is responsible for the administration of the financial affairs of the City which include cash management and investments, debt management, financial accounting and reporting, procurement, risk management and retiree benefits. Prior to joining the City, he was a governmental investment banker based out of Richmond, Virginia, where his responsibilities included providing the full range of underwriting and financial advisor services to governmental entities throughout the Middle Atlantic States of Virginia, Maryland, North Carolina and the District of Columbia. Mr. Hill also served as the Executive Director of the Virginia Resources Authority under Governor Mark Warner. Mr. Hill earned a Bachelor of Science degree, with honors, in Economics from the School of Business at Hampton University, Hampton, Virginia.

### **Bernard A. Pishko, City Attorney**

Bernard A. Pishko was first appointed by City Council as City Attorney in November 1997. He previously served as Deputy City Attorney from 1989 to 1997 and as an Assistant City Attorney from 1984 to 1989. He has practiced law since 1982. The City Attorney is also general counsel for the Norfolk School Board, Norfolk Recreational Facilities Authority, Norfolk Community Services Board, Hospital Authority of Norfolk, Norfolk Municipal Employees' Retirement System, Norfolk Electoral Board, Civil Service Commission and The Chrysler Museum of Art. Mr. Pishko is a member of many professional associations and community organizations. He received his undergraduate degree from Brown University, Providence, Rhode Island, a Masters degree in Business Administration from the College of William and Mary, Williamsburg, Virginia, and a law degree from the Marshall-Wythe School of Law, Williamsburg, Virginia.

## City Organization





In Virginia, cities and counties are not overlapping units of government. Each city or county is a distinct political entity providing services for the population within its respective jurisdiction. The City of Norfolk provides a comprehensive range of public services characteristic of its form of government under Virginia law. These services are designed to provide an environment within which the educational, physical, social and cultural needs of its citizens are met. These general governmental services include police protection, fire and paramedical services, public health and social services, planning and zoning management, code enforcement, storm water management, street maintenance, traffic control, parks and cemeteries operation and maintenance, recreation and library services, economic development, solid waste disposal and general administrative services. In addition, water and wastewater utilities and parking facilities services are provided under an enterprise fund concept with user-charges set by City Council.

### **Other Governmental Entities**

#### *School Board of the City of Norfolk*

The seven members of the School Board of the City of Norfolk (the "School Board") are appointed by the City Council. The School Board is a corporate body and in its corporate capacity is vested with all of the duties, obligations and responsibilities imposed upon school boards by law. The City Council is required to appropriate annually to the School Board the amount needed for the support of the public schools in maintaining educational programs which meet the standards of quality prescribed by law. Categorical aid from the Commonwealth of Virginia and the federal government designated for educational purposes is included in the City's General Fund budgetary revenue. This categorical aid, plus monies derived from local sources, provides the funds for the major share of the School Board's operations. On an ongoing basis, the City also issues debt to finance needed capital projects of the school system.

The School Board presently operates 35 elementary schools, nine middle schools, five high schools and several auxiliary schools, including alternative, magnet and specialty programs. For Fiscal Year 2009, the School Board's expenditures for education totaled \$387,392,289.

#### *Norfolk Airport Authority*

The Norfolk Airport Authority, a political subdivision of the Commonwealth, was created to operate an airport and to promote industrial growth and consists of both an Airport Fund and an Investment Fund. The Airport Fund was established by the Authority to account for the operations of the Norfolk International Airport (the "Airport"). Revenue generated by airport operations is used to meet all operating expenses and to provide for payment of all principal and interest on debt of the Authority related to the Airport. The Investment Fund was established by the Authority to provide for certain airport capital improvements.

The Authority finances individual capital projects by issuing bonds or obtaining loans and intergovernmental grants in its own name and concurrently entering into leases which provide for payment of all principal and interest on the related obligations as they become due. Revenue includes rental income on non-airport property owned by the Authority and interest on investments.

The Authority's Commissioners are appointed by City Council, but the Commission designates its own management and has oversight responsibility for its own fiscal matters. The City does not provide funds for the operations of the Authority, and pursuant to Section 144(q) of the City Charter, the Authority is required to submit its annual budget to the City Council for the purposes of information only. The City of Norfolk has the option to reacquire, without consideration, title to all property and equipment after payment by the Authority of all obligations relating to the improvements at the Airport.

#### *Hampton Roads Regional Jail Authority*

The Hampton Roads Regional Jail Authority ("HRRJA") is a regional organization which includes the cities of Hampton, Newport News, Norfolk and Portsmouth, created for the purpose of providing, operating and maintaining a regional jail facility for the correctional overflow from each community. HRRJA is a primary

government, with no component units, that is a body politic and corporate created pursuant to Article 3.1, Chapter 3, Title 53.1 of the Code of Virginia, as amended, and is governed by a twelve member Board of Directors, consisting of three representatives appointed by each of the member cities. The budgeting and financing of HRRJA are subject to the approval of the Board of Directors, with each individual having a single vote. HRRJA is responsible for its own financial matters, maintains its own books of account and is audited annually by independent accountants that it engages.

The regional jail facility (the "Jail"), which opened in March 1998, consists of approximately 385,518 square feet of building area, including three housing building units, a support building and a central plant. The Jail holds 875 inmates of which 250 are designated to the City. The City is responsible for 28.57% of the total operating cost less the revenue derived from the Virginia Compensation Board and the per diem reimbursement from the Commonwealth for the housing of state inmates.

#### *The Southeastern Public Service Authority of Virginia*

The Southeastern Public Service Authority ("SPSA") is a joint venture of the cities of Chesapeake, Franklin, Norfolk, Portsmouth, Suffolk and Virginia Beach and the counties of Isle of Wight and Southampton, created for the purpose of providing, operating and maintaining a regional system for the collection, transfer, processing and disposal of solid waste refuse.

SPSA is a primary government, with no component units, that is a public body politic and corporate created pursuant to the Virginia Water and Sewer Authorities Act, and is governed by an eight-member Board of Directors, consisting of a representative appointed by each of the member cities and counties. Budgeting and financing of SPSA is subject to the approval of the Board of Directors, with each individual having a single vote. The Authority is responsible for its own financial matters, maintains its own books of account and is audited annually by independent accountants that it engages.

The regional system includes solid waste transfer stations in each of the member jurisdictions, a landfill and rolling stock and ancillary facilities.

#### *Transportation District Commission*

Hampton Roads Transit (the "District") was created on October 1, 1999, with the consolidation of the Tidewater Regional Transit and Peninsula Transportation District Commission. It is believed to be the first voluntary merger of public transit agencies in the nation.

The District is governed by the Transportation District Commission of Hampton Roads and is a body corporate and politic of the Commonwealth. The District was formed as a joint exercise of governmental power in accordance with the provisions of Chapter 45 of Title 15.2 of the Code of Virginia.

The District provides public transportation facilities and services within cities of Norfolk, Chesapeake, Hampton, Newport News, Portsmouth, Suffolk and Virginia Beach.

**Table D-2**  
**City of Norfolk, Virginia**  
**Contributions to Hampton Roads Transportation District Commission**  
**2006 - 2010**

<u>Fiscal Year</u>	<u>Contributions</u>
2006	\$4,559,463
2007	5,960,949
2008	7,047,624
2009	7,666,622
2010	7,666,622

Sources: Approved Operating Budgets, Fiscal Years 2006 through 2010.

*Hospital Authority of Norfolk*

The Hospital Authority of Norfolk ("HAN"), which has a nine-member Board of Commissioners appointed by City Council, is a tax-exempt, not-for-profit political subdivision of the Commonwealth created pursuant to an Agreement of Transfer dated July 1, 1988. HAN operates Lake Taylor Hospital as a long-term care facility licensed by the Virginia State Health Department to provide a continuum of patient care ranging from sub-acute hospital services to skilled nursing care.

*Norfolk Redevelopment and Housing Authority*

The Norfolk Redevelopment and Housing Authority ("NRHA"), a political subdivision of the Commonwealth, was created by the City on July 30, 1940, under the provisions of the United States Housing Act of 1937. The NRHA provides subsidized public housing and administers redevelopment and conservation efforts within the City in accordance with State and federal legislation. The seven members of the Board of Commissioners are appointed by City Council. The NRHA is responsible, through a contract with the City, for the administration of such activities as community development, and urban renewal. The NRHA develops its operating budget without approval from the City Council and executes contracts on its own behalf. However, the City does not exercise a significant degree of oversight responsibility for the NRHA as it is responsible for designating its own management, developing its own operating budget and executing major contracts on its own behalf. The NRHA is responsible for its own fiscal matters as it maintains its own books of account, is audited annually by independent accountants it engages, and has authority over earnings, deficits and monies other than City contract funds. The City contracts with NRHA to complete specific projects, generally capital improvement projects.

**ECONOMIC AND DEMOGRAPHIC FACTORS**

**Population**

As reflected in Table D-3 below, from 2000 to 2009 recently published population statistics suggest the City's population has now stabilized. The City is the second most populous city in Virginia, as shown in Table D-4.

**Table D-3**  
**Population Trend Comparisons**  
**2000 - 2009**

<b>Year</b>	<b>Norfolk<sup>(2)</sup></b>	<b>Hampton Roads MSA<sup>(1)(2)</sup></b>	<b>Virginia<sup>(3)</sup></b>	<b>U.S.<sup>(3)</sup></b>
2000	234,403	1,558,727	7,078,515	281,421,906
2001	234,000	1,567,300	7,188,251	285,039,803
2002	233,600	1,574,500	7,276,785	287,726,647
2003	233,900	1,583,900	7,363,300	290,210,914
2004	235,200	1,605,900	7,454,688	292,892,127
2005	235,071	1,615,415	7,546,725	295,560,549
2006	234,219	1,619,600	7,628,347	298,362,973
2007	235,915	1,623,624	7,698,775	301,290,332
2008	233,106	1,632,970	7,795,424	304,059,724
2009	237,764	1,644,005	7,882,590	307,006,550

Notes: (1) The Hampton Roads MSA is the Virginia portion only.  
(2) Population estimates are from the Weldon Cooper Center for Public Service, University of Virginia.  
(3) Population estimates are from the U.S. Census Bureau.

Sources: U.S. Census Bureau and the Weldon Cooper Center for Public Service, University of Virginia.

**Table D-4**  
**Five Most Populous Cities in Virginia**

<b><u>City</u></b>	<b><u>2000 Census Population</u></b>	<b><u>2009 Population Estimate</u></b>
Virginia Beach.....	425,257	434,412
Norfolk .....	234,403	237,764
Chesapeake .....	199,184	219,960
Richmond .....	197,790	198,102
Newport News .....	180,697	182,591

Sources: U.S. Census Bureau and the Weldon Cooper Center for Public Service, University of Virginia.

Table D-5 provides an annual comparison of per capita personal income since 1999.

**Table D-5**  
**City of Norfolk, Virginia**  
**Per Capita Personal Income Comparisons**  
**1998 - 2008**

<u>Year</u>	<u>City</u>	<u>Hampton Roads</u> <u>MSA</u>	<u>State</u>	<u>U.S.</u>
1999	\$22,124	\$25,212	\$29,617	\$28,333
2000	23,472	26,762	31,640	30,318
2001	25,542	28,524	33,249	31,145
2002	26,149	29,505	33,745	31,462
2003	27,719	31,053	34,979	32,271
2004	29,154	32,464	36,842	33,881
2005	31,159	34,107	38,892	35,424
2006	33,239	36,319	41,267	37,698
2007	34,873	38,135	43,158	39,392
2008	36,065	39,300	44,075	40,166

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

The age distribution of the City's population is presented in Table D-6.

**Table D-6**  
**City of Norfolk, Virginia**  
**City Population Distribution by Age**  
**1960 - 2000**

<u>Year</u>	<u>Population</u>	<u>Under 20</u>	<u>20-64</u>	<u>65 or Older</u>
1960 .....	305,872	39.8%	54.5%	5.7%
1970 .....	307,951	35.4	57.8	6.8
1980 .....	266,979	30.7	60.1	9.2
1990 .....	261,250	28.1	61.4	10.5
2000 .....	234,403	27.3	61.5	11.2

Source: Various Reports of the U.S. Census Bureau.

## **Housing and Construction Availability**

Table D-7 provides an annual breakdown of residential building permits over the past 10 Fiscal Years.

**Table D-7**  
**City of Norfolk, Virginia**  
**Residential Construction**  
**Fiscal Years 2001 - 2010**

<b><u>Fiscal Year</u></b>	<b><u>Building Permits</u></b>	<b><u>Number of Units</u></b>	<b><u>Value (in thousands)</u></b>
2001 .....	185	401	\$35,109
2002 .....	290	462	44,498
2003 .....	287	609	61,790
2004 .....	506	766	83,525
2005 .....	560	1,191	204,391
2006 .....	531	1,058	133,053
2007 .....	389	491	688,476
2008 .....	277	815	101,212
2009 .....	209	535	35,878
2010 .....	193	554	58,800

Source: Permit Tracking System, Department of Planning, City of Norfolk.

Table D-8 presents annual nonresidential construction, which includes commercial buildings, public buildings, schools, public utility buildings and miscellaneous structures.

**Table D-8**  
**City of Norfolk, Virginia**  
**Nonresidential Construction**  
**Fiscal Years 2001 - 2010**

<b><u>Fiscal Year</u></b>	<b><u>Building Permits</u></b>	<b><u>Value (in thousands)</u></b>
2001 .....	35	\$62,046
2002 .....	53	51,451
2003 .....	35	24,084
2004 .....	59	134,197
2005 .....	70	70,677
2006 .....	60	165,989
2007 .....	55	81,396
2008 .....	35	102,714
2009 .....	38	138,131
2010 .....	35	104,922

Source: Permit Tracking System, Department of Planning, City of Norfolk.

## **Employment**

Businesses in the City provide residents with employment opportunities in a variety of industries of which services, government and trade are the most significant.

The unemployment rate for the City is illustrated in Table D-9.

**Table D-9**  
**City of Norfolk, Virginia**  
**Unemployment Rates**  
**2000 – 2009**

	<b><u>Norfolk</u></b>	<b><u>Hampton Roads MSA</u></b>	<b><u>Virginia</u></b>	<b><u>U.S.</u></b>
2000	3.3%	2.5%	2.3%	4.0%
2001	4.3	3.3	3.2	4.7
2002	5.1	4.1	4.2	5.8
2003	5.3	4.2	4.1	6.0
2004	5.1	4.0	3.7	5.5
2005	5.0	3.9	3.5	5.1
2006	4.2	3.3	3.0	4.6
2007	4.0	3.2	3.0	4.6
2008	5.2	4.2	3.9	5.8
2009	8.4	6.8	6.7	9.3

Source: Virginia Employment Commission.

**Table D-10**  
**City of Norfolk, Virginia**  
**Civilian Employment and Average Weekly Gross Wages**  
**4<sup>th</sup> Quarter, 2009**

<b><u>Category</u></b>	<b><u>Number of Establishments</u></b>	<b><u>Number of Employees</u></b>	<b><u>Average Weekly Gross Wage</u></b>	<b><u>Percentage of Employment</u></b>
Construction	434	4,925	\$ 969	3.56%
Manufacturing	158	7,292	1,052	5.27
Trade, Transportation & Utilities	1,324	25,806	924	18.65
Information	113	2,787	1,141	2.01
Financial Activities	651	8,440	1,017	6.10
Professional & Business Services	1,037	20,511	1,269	14.83
Education and Health Services	727	37,459	869	27.08
Leisure and Hospitality	602	12,449	468	9.00
Other Services	598	3,722	620	2.69
Public Administration	78	14,088	1,299	10.18
Natural Resources & Mining	10	873	778	0.63
<b>Total</b>	<b>5,732</b>	<b>138,352</b>	<b>\$ 948</b>	<b>100.00%</b>

Sources: U.S. Bureau of Labor Statistics and Virginia Employment Commission, Quarterly Census of Employment & Wages Program.

## **Economic Development**

Economic development initiatives are focused on the attraction, expansion and retention of businesses, neighborhood and community revitalization and commercial corridor development. Some of the City-lead initiatives to stimulate commercial revitalization include: Tax Abatement Program; Federal Empowerment and HUB Zones; State Enterprise Zones; Small Area Aesthetic Matching Grant Program; Aesthetic Improvement Grant Pool; Pedestrian Commercial Overlay Zones Tax and Grant Benefits; Concentrated Development Zone Incentives; public infrastructures; amenities; Tax Increment Financing Zones; and Revolving Loan Funds.

## **Downtown Development**

Downtown offers a mix of cultural attractions and entertainment for its citizens and tourists. Resulting from the coordinated efforts of the City, downtown property assessed value increased 88% from Fiscal Years 2004 through 2009.

The current vacancy rate for Downtown Class A office space is below 10%, as shown in Table D-11 below.

**Table D-11  
City of Norfolk, Virginia  
Downtown Norfolk Vacancy  
December 2009**

### **Class A**

	<b><u>Rentable SF</u></b>	<b><u>Vacant SF</u></b>	<b><u>% Vacant</u></b>
150 West Main Street	226,183	13,102	5.79%
Crown Center	62,000	3,530	5.69
Dominion Tower	403,276	12,958	3.21
Main Street Tower	200,000	-	0.00
Norfolk Southern Tower	301,463	47,048	15.61
Town Point Center	130,266	16,826	12.92
World Trade Center	<u>366,941</u>	<u>64,464</u>	<u>17.57</u>
<b>TOTAL</b>	<b>1,690,129</b>	<b>157,928</b>	<b>9.34%</b>

Source: Costar, January 2010.

Bank presence along Main Street includes Bank of America, BB&T, Monarch, Old Point National, RBC Centura, SunTrust, TowneBank and Wells Fargo. Bank of Hampton Roads, Heritage, Bank of the Commonwealth and several credit unions are also downtown.

The Wells Fargo Center, a \$170 million dollar office, retail and residential development opened June 7, 2010, on Monticello Avenue adjacent to MacArthur Center, Scope and Chrysler Hall. The Wells Fargo Center adds approximately 258,000 square feet of office space and 14,000 square feet of retail space to the downtown market. This city block development features a 22-story Class A office tower, which is 75% leased, and 1,850 parking spaces in two garages to be built by the City. The project will also include 50,000 square feet of retail shops and 121 apartments, estimated to be completed in the summer of 2012.

## **Residential Development**

Neighborhood revitalization is one of the City's core initiatives and part of the economic development plan. By increasing the diversity of housing opportunities, the City expects to increase the diversity of its citizenry and expand the tax base. The City's goal for neighborhood and commercial development is to provide an environment that will increase private sector investment, retail sales generation and corresponding municipal revenue generation, create a framework for targeted and coordinated public and private investment and build upon and coordinate with other ongoing community development initiatives.



Residential investment continues to grow throughout the City. Several mixed-use offerings now being occupied Downtown include: Harbor Heights, a \$57 million investment, 99 lofts, with a first floor retail grocery, integral parking and two floors of administrative space for Tidewater Community College; St. Paul's Place is complete with 90 condos alongside the MacArthur Center bringing a mix of historic façade to traditional condos (The Flats) and industrial lofts along St. Paul's Boulevard (The Lofts); and The Rotunda, a signature round building adjacent to St. Paul's Place, converted into 66 condominiums ranging in price from \$250,000 to \$1.2 million. In addition to these buildings, there are 94 condominium units at 388 Boush Street, an upscale community representing a \$26 million project wrapping a City parking garage. The 20-unit, \$25 million, Franklin Condominiums are also now available. This project further moved downtown redevelopment across Brambleton Avenue. The Belmont at Freemason contains 241 apartments in two buildings and a garage with 531 parking spaces at Brambleton and Bute Streets with an estimated value of \$45 million.

Residential development also continues to grow in areas beyond Downtown Norfolk. In Larchmont, located on the west side of Norfolk, The Landings at Bolling Square, a 184 condominium unit development estimated at \$60 million, has recently been completed. Other residential development includes 12 new brick town homes on Church Street. These three to four bedroom units are priced between \$165,000 and \$225,000. The River House, a \$32 million, 194-unit luxury apartment community on Haven Creek at the Granby Street Bridge is nearly complete. The River House will strengthen the Riverview commercial corridor and boost prospects for development of adjoining property in this vital area situated between two desirable and historic neighborhoods. SouthWind Apartments, a \$15 million development in Denby Park on a former trailer park, is now occupied. Additional investment along Newport Avenue includes Westport Commons, an \$80 million townhouse/condominium project.

The seven-mile stretch of beaches on the Chesapeake Bay known as Ocean View experienced redevelopment over the past decade. More than 200 new homes have been built in Ocean View with an average value of \$250,000. The East Beach section of Ocean View will have 700 housing units with prices ranging from \$200,000 to over \$1.5 million. A portion of the homes are currently occupied with the remainder of the properties planned for development. Lot sales total over \$37 million dollars, and the developers' final payment on the \$8.5 million land purchase was made in 2008 – two years ahead of schedule. Additionally, East Beach was selected for the second time as the site for Homearama 2010. Another project moving forward on East Ocean View Avenue is the Bay Village Senior Condominiums, a \$15 million development and the first housing exclusively for seniors in Ocean View.

Broad Creek is a \$200 million new community near Norfolk State University with 600 mixed-income homes. In Broad Creek, the region's first mixed-use, mixed-income community, construction is complete on 400 rental units and 70 homes. Construction on Broad Creek Village, a mixed-use residential and retail development began during 2008, and is being followed by Broad Creek's final phase of 200 mixed-income residential units north of Princess Anne Road.

The City is also redeveloping the Fort Norfolk area, which is a 30-acre urban waterfront area linking Downtown Norfolk to the region's medical complex and Ghent community. In the Fort Norfolk section of Downtown Norfolk, the City's first retirement community, known as Harbour's Edge, opened in September 2006 and the second phase is currently being planned. Fort Norfolk Plaza across Brambleton from the medical complex that includes Sentara Norfolk General Hospital and Eastern Virginia Medical School, is a \$70 million, 9-story medical office tower that broke ground in February 2009. The project is expected to also include a jazz club/restaurant, retail shops and a parking garage.

### **Arts and Culture**

Norfolk offers a mix of cultural attractions and entertainment for its citizens and tourists. Recently, investments in this segment include restoration of three live performance theatres, the construction of a cruise terminal building and upgrades to civic venues. Norfolk is home to the Chrysler Museum of Art, Virginia Arts Festival, Virginia Ballet, Virginia Opera, Virginia Stage Company and Virginia Symphony. Norfolk's entertainment and theatre venues include the Attucks Theatre, the Harrison Opera House, Chrysler Museum, and the "Theater District" which includes Chrysler Hall, Jeanne and George Roper Theater, Wells Theatre and the NorVa.

The Virginia Arts Festival will move into its new 18,000-square-foot building, the Clay and Jay Barr Education Center, in September 2010. The building, which is located across the street from Chrysler Hall, will house year-round education outreach activities, a rehearsal and intimate performance space, as well as the Festival's administrative offices. Adjacent to the Education Center is the new home of the Hurrah Players, which will feature a 100-seat theater and two rehearsal halls.

Today, there are more than 350 public art programs that support thousands of artists' projects in government buildings, the airport, in libraries, in parks and in neighborhoods. Additional artwork will be displayed in the light rail stations, which are scheduled to open in 2011.

In 2006, a Public Arts Commission was established to develop policies for the creation of artwork that will create a unique image and sense of place for Norfolk. The City capital improvement budget allocates 1% of specified construction projects valued at over \$500,000 for the purpose of acquisition of artwork. The first two projects funded from the One Percent for Art funds were incorporated in the Town Point Park renovation which was completed in July 2009. The first was a photo-based tile mural along a new fence in Town Point Park that depicted the downtown waterfront through the years. The second was a stainless-steel mermaid sculpture perched atop a new fountain between the Half Moone Cruise and Celebration Center and Nauticus that commemorated the 10th anniversary of the mermaid as the City's brand image.

### **International Intermodal City Expansions**

#### **Cruise Norfolk**

The 80,000 square foot Half Moone Cruise & Celebration Center opened in spring 2007. The cruise terminal is located in the harbor between Town Point Park and Nauticus/Battleship Wisconsin. Norfolk is a homeport for Carnival ships, which provide regular service to Bermuda and the Bahamas. During the 2009 cruise season, 60,000 cruise ship passengers traveled from Norfolk with an estimated 40,000 passengers anticipated in 2010. Norfolk was selected by Porthole Cruise Magazine with the "2008 Editor-in-Chief Award" naming Norfolk "Best Up-and-Coming U.S. Homeport" and was also selected as one of the American Public Works Association's Public Works Project of the Year for 2008.

#### **Norfolk Airport Authority**

The Norfolk International Airport (the "Airport") is served by American, Continental, Delta, Northwest, Southwest, United Express and US Airways. The Airport generates nearly 1,700 jobs and over \$135 million in direct economic impacts annually. Through December 2009, 3.4 million passengers used the Airport, a 3.94% decrease from 2008. In addition, over 5.6 million pounds of cargo flowed through the Airport in December, an increase of 10.48%. In Norfolk, service has remained stable over the past two years, with an average of 80 daily departures.

### **Hotel Development**

Norfolk has over 5,100 hotel rooms, including over 1,500 in the downtown area. Tourism and conventions employ over 7,000 workers in the City and generate \$24.2 million in state taxes and \$22.4 million in local tax revenue. Travelers to the City spend over \$680 million annually.

Three new hotels opened in 2009: Candlewood Suites and Holiday Inn Express and Suites, each near the Airport, and the Residence Inn in the downtown area. Additionally, a \$73 million, 301 room, Westin hotel is expected to be built above a new conference center at the corner of Granby and Main Streets. This 23-story building is expected to include residential condos above the hotel, as well as integrated parking.

### **Waterfront Recreation Investment**

Town Point Park, located in the downtown area along the Elizabeth River, brings thousands of visitors downtown annually and generates both tax and parking revenue for the City. Construction was completed on a nine-month, \$11.5 million renovation in July 2009, the first renovation in its 25 year history.

Norfolk has been chosen as one of five ports to host OpSail in 2012. The 2012 event is part of the commemoration of the bicentennial of the War of 1812 and the birth of the "Star Spangled Banner." Norfolk and the Port of Hampton Roads will host the OpSail flotilla from June 6-11, 2012, in conjunction with the City's annual Harborfest.

Norfolk boasts over 144 miles of shore where the Chesapeake Bay meets the Atlantic Ocean. Numerous marinas are all along Downtown's Elizabeth River, the Lafayette River, lakes, the Hampton Roads Harbor and the Chesapeake Bay. In Ocean View, adjacent to the "Little Annapolis" retail portion of East Beach is Taylor's Landing Boatel Marina, a \$10 million private investment bringing 500 new recreational boat slips to the area. This marina complex is being expanded to include retail boat showrooms, a boat repair facility, condominiums and restaurant and retail offerings. East Beach, located on the Chesapeake Bay, was named one of the top restored beaches in America by the American Shore and Beach Preservation Association due in part to the investment of \$2.5 million dollars in beach erosion funds.

### **Sports and Recreation**

Norfolk has several waterfronts with the Chesapeake Bay on its North boundary and two major rivers within its boundaries. The City has a public boat ramp in Willoughby Spit with access to the Chesapeake Bay, as well as the recently rehabilitated Haven Creek boat ramp with access to the Lafayette River. Three golf courses are also located within the City.

A new 24,290 square foot community center is completed and open in Lamberts Point. This community center is adventure-themed and features a 25-foot climbing wall. Lamberts Point is the City's first official "green" building with many environmentally friendly elements. The community center is seeking LEED (Leadership in Energy and Environmental Design) certification.

Grandy Village is currently undergoing a \$50 million transformation, which includes the construction the Grandy Village Community and Education Center, an outdoor environmental and educational learning laboratory on the riverfront. It features a wetlands nature trail, canoe and kayak launch, and a wetlands pavilion overlooking the water. The new building will be constructed to U.S. Green Building Council LEED standards, and will be open to all Norfolk residents.

The Skate Park at Northside Park is a professionally designed, 21,000 square feet skate plaza. The concrete facility integrates transitional and street style elements into one park. Designed to be one of the region's largest, tournament-style skate parks, it will boast one of the largest bowls in Hampton Roads with a 7' to 9' transition next to a mini half-pipe.

Norfolk is home to the Norfolk Tides, (a AAA minor league baseball team), the Norfolk Admirals (a AHL hockey team) and hosts Arena Racing USA on an indoor track. Old Dominion University began a football program in the fall of 2009, adding to the long-established football program at Norfolk State University.

## **Norfolk's Educational Institutions**

Available within the City are a wide variety of educational facilities including public elementary, middle and high schools, private and parochial schools, two universities, one college, one community college and a medical school.

### **Public Schools**

Norfolk public schools have a low pupil-teacher ratio with class sizes well below the national average. Norfolk offers innovative public school programs, which include Early Childhood Education, a unique, comprehensive program for three and four-year-olds and their parents located in the public housing community of Diggs Town, at the Park Place/Colonial Place Community Center and at Ocean Air Elementary.

Approximately \$90 million has been recently invested in Norfolk public schools. Facilities receiving renovations and new construction include Norview High School, Blair Middle School, Bay View Elementary, Granby High School, Taylor Elementary and the School of International Studies at Meadowbrook.

The City is home to the Governor's Magnet School for the Arts, Virginia's only magnet school for the arts, which offers classes in performing or visual arts to approximately 300 students from six cities and two counties. The school system also has a program for gifted science students that enables them to study at Eastern Virginia Medical School.

The Broad Foundation awarded Norfolk public schools the "Nobel Prize" of education in 2006 designating it as the Best Urban School District in the nation. This is the third year in a row that Norfolk has been selected as one of five finalists for this prestigious award. The Broad Prize is presented annually to an urban school district that has demonstrated considerable success in narrowing achievement gaps between groups of students while improving performance for all.

Student population for the past five Fiscal Years is shown in Table D-12.

**Table D-12**  
**City of Norfolk, Virginia**  
**Public Schools Student Population**  
**Fiscal Years 2005 – 2009**

<b><u>Fiscal Year</u></b>	<b><u>September 30 Membership</u></b>	<b><u>Percent Change</u></b>
2005	34,445	1.28%
2006	34,063	-1.12
2007	33,593	-1.38
2008	32,947	-1.92
2009	32,272	-2.05

Source: Virginia Department of Education. Superintendents Annual Report. Table 1, Membership.

## **Higher Education**

Norfolk is home to five institutions of higher learning: Old Dominion University ("ODU"), Norfolk State University, Virginia Wesleyan College, Tidewater Community College and Eastern Virginia Medical School. ODU is one of only 100 public research universities nationwide, with a full and part-time enrollment of nearly 22,000 students. ODU's Innovation Research Park, one of the only research parks in the nation to be located on the campus of its research institution, is located in the 75-acre, mixed use University Village. Norfolk State University is Virginia's largest public, historically black university ("HBCU") and the seventh largest HBCU in the nation.

## **Institutional Technology Parks**

Old Dominion University – University Village. ODU, in partnership with the City, the NRHA, and private developers, has initiated a large scale, mixed-use redevelopment project. This redevelopment project, the University Village, will directly impact 75 acres (13 City blocks) and result in over \$260 million in private and public investments. The project includes student housing, retail, a convocation center, parking, research/office buildings, apartments and a hotel. The research park, named Innovation Research Park, is one of a few research parks in the country located on the campus of its research institution.

Norfolk State University – The Research and Innovations to Support Empowerment Center (the "RISE Center"). The RISE Center is located on the campus of Norfolk State University. Designed to promote interaction between the university, the business sector and community and federal agencies in research and technology, the RISE Center houses classrooms, labs and offices for professors in areas such as materials research, engineering and computational science, as well as the office of research and technology.

## **Norfolk's Medical Institutions**

Within the City, there are five general, acute care and specialized hospitals including Sentara Norfolk General Hospital, Sentara Leigh Hospital, Bon Secours DePaul Medical Center, Children's Hospital of The King's Daughters ("CHKD") and Lake Taylor Transitional Care Hospital ("Lake Taylor Transitional"). Sentara Norfolk General Hospital opened its new \$100 million heart hospital in February 2006, a 112-bed, 254,000 square feet center. The heart hospital is leading the way for Sentara's 2010 expansion plan for the medical complex. In 2008, Lake Taylor Transitional's rehabilitation department was awarded with the "Better Health Award of 2008" by ODU's College of Health Science department for their innovation of being the first rehabilitation department in the area to "Wiihabilitate." CHKD, the site of Virginia's only free-standing, full-service pediatric hospital, has received permission to add 26 beds, bringing the hospital's capacity to 212. The expansion is expected to be completed by November 2010.

## **The Virginia Port Authority**

In 1981, the Virginia General Assembly passed landmark legislation designed to unify the ports in southeastern Virginia Hampton Roads harbor under a single agency, the Virginia Port Authority, with a single operating company, the Virginia International Terminals, Inc. The Port of Virginia, one of the world's largest natural deep-water harbors, is an integral part of Norfolk's economy.

The Virginia Port Authority is one of the top three ports on the east coast in terms of total value of port trade. Over 14.9 million tons of cargo shipped from the region's three main marine cargo terminals in 2009. In 2009, the port handled a total of 14,908,409 tons of general cargo, including 14,679,585 tons of containerized cargo, with 228,905 tons of breakbulk making up the remainder. By way of comparison, the port handled a total of 17,833,147 tons of general cargo in 2008 prior to the worldwide economic downturn that affected virtually every port with container shipping operations.

**Table D-13**  
**Virginia Port Authority Terminals**  
**General Cargo Tonnage**  
**Calendar Years 2005 – 2009**

<u>Calendar Year</u>	<u>Total General Cargo Tonnage (000's)</u>	<u>Percent Change over Previous Year</u>
2005	15,964	7.44%
2006	16,583	3.88
2007	17,726	6.89
2008	17,833	0.60
2009	14,908	(16.40)

Source: Virginia Port Authority.

Port-related business increases at the Virginia International Terminals drive new capital investment into the region. Completion, later this year, of the Heartland Corridor will give the Port access to markets in Ohio, Illinois, Michigan and points west. By 2012, a 300-acre expansion of Norfolk International Terminal will be completed making it the largest inter-modal center in the United States.

#### **Business, Industry and Commerce**

Several major companies are headquartered in Norfolk, including:

- Norfolk Southern, a Fortune 500 company and one of the country's largest railroad operators;
- Landmark Communications, one of the country's largest privately owned media companies with ownership of several daily newspapers, local TV stations, specialty publications, and The Weather Channel and weather.com;
- Dominion Enterprises, a wholly-owned subsidiary of Landmark Communications, Inc., is a print and internet media group that includes numerous specialty publications and online classifieds;
- FHC Health Systems, one of the top 250 largest private companies in the country, specializing in health care management, health services, and online medical reports;
- CMA CGM (America), Inc., one of the world's largest container transportation and shipping company;
- Portfolio Recovery Associates, a firm whose primary business is the purchase, collection and management of defaulted customer receivables; and
- BlackHawk Products Group, which provides tactical gear such as holsters, body armor, and backpacks to the U.S. Defense Department and law enforcement agencies throughout the world.

Additionally, there are a large variety of industrial, commercial and service employers are located within the City. Table D-14 presents data regarding the major non-government employers in the City.

**Table D-14**  
**City of Norfolk, Virginia**  
**Major Non-Government Employers in 4<sup>th</sup> Quarter 2009**

<b>Company</b>	<b>Number of Employees</b>	<b>Product/Service</b>
	<b>1,000+</b>	
Sentara Healthcare		Hospitals
Old Dominion University		Educational Services
Children's Hospital of the King's Daughter		Hospitals
Norfolk State University		Educational Services
Norshipco		Transportation Equipment Manufacturing
Medical College of Hampton Roads		Educational Services
Portfolio Recovery Association		Administrative and Support Services
Wal-Mart		General Merchandise Stores
	<b>500 - 999</b>	
Bank of America Card Services Corp.		Credit Intermediation and Related Activities
Bon Secours DePaul Medical Center		Hospitals
Maersk Line Limited		Water Transportation
Virginia International Terminal		Support Activities for Transportation
Tidewater Community College		Educational Services
Sentara Health Management		Insurance Carriers and Related Activities
Tidewater Wholesale Grocery		Merchant Wholesalers, Nondurable Goods
Farm Fresh		Food and Beverage Stores
The Titan Corporation		Professional, Scientific and Technical Services
American Funds Service Company		Financial Investments
ODU Research Foundation		Professional, Scientific and Technical Services
Colonna's Shipyard		Transportation Equipment Manufacturing
CMA-CGM (America), Inc.		Support Activities for Transportation
McDonald's		Food Services
	<b>250 - 499</b>	
7-Eleven		Gasoline Stations; Food and Beverage Stores
Bank of America		Credit Intermediation and Related Activities
The Virginian-Pilot		Publishing Industries
CooperVision Inc.		Manufacturing
Fleet & Industry Supply Center		Administrative and Support Services
Electronic Data Systems Corp		Internet Service Providers and Data Processing Services
Lake Taylor Transitional, Inc.		Nursing and Residential Care Facilities
Southeastern Public Service Authority of Virginia		Administration of Environmental Quality Programs
Personal-Touch Home Care, Inc.		Ambulatory Health Care Services
Marine Hydraulics International		Transportation Equipment Manufacturing
Trader Publishing Company		Publishing Industries
Food Lion		Food and Beverage Stores
United Services Automobile Association		Insurance Carriers and Related Activities
Virginia Electric & Power Company, Inc.		Utilities
Aramark Campus LLC		Food Services
Metro Machine Corporation		Transportation Equipment Manufacturing
Clark Nexsen Owen Barbieri		Professional, Scientific and Technical Services
CP&O LLC		Support Activities for Transportation
Transit Management Company		Transit and Ground Passenger Transportation
ITT Educational Services, Inc.		Educational Services

Source: Virginia Employment Commission.

Table D-15 is a representation of selected business growth or expansion for the period 2009 - 2010.

**Table D-15**  
**City of Norfolk, Virginia**  
**Business Growth**  
A Sampling of Business Activity in 2009 - 2010

Company	Type	E/N <sup>(1)</sup>	C/D/A <sup>(2)</sup>	Investment (mil)
201 Twenty-One	Mixed-use residential apartments & retail	N	D	40.00
Bay Village Condominiums	Senior only residences	N	D	15.00
Belmont at Freemason	Apartments	N	C	45.00
Capital Group/American Funds	Financial	E	D	8.00
CMA CGM	Americas Headquarters, shipping line	E	D	1.10
Commander Corporate Center	Second office building for spec	N	D	12.00
Court Complex	New combined Hall of Justice	N	A	108.00
Crowne Plaza Hotel (formerly Radisson)	New ownership making renovations	E	D	4.00
EVMS	New education and research building	N	A	80.00
Fort Norfolk Plaza	Mixed-use medical office, retail	N	D	70.00
Harbor Heights	Mixed-use residential, grocery and TCC offices	N	C	38.00
Harris Teeter Expansion	Demolition of existing and construction of new grocery store	E	A	n/a
Kroc Center	Community center	N	A	84.00
Lamberts Point	Recreation facility	N	D	7.60
Light Rail	Starter Line	N	D	288.00
MacArthur Memorial	Expansion	E	D	5.00
Midtown Office Tower	New office tower	N	A	33.00
Norfolk State University (NSU)	Library and student center	N	A	75.00
Old Dominion University (ODU)	Innovations Research Park II	N	C	22.50
Old Dominion University (ODU)	Allocated from Governor's budget request	N	A	86.00
Old Dominion University (ODU)	Bookstore	N	C	8.50
Old Dominion University (ODU)	Art galleries and parking deck	N	C	11.00
Old Dominion University (ODU)	Student fitness center	N	C	28.00
Old Dominion University (ODU)	Football stadium renovation and new parking garage	E	C	24.80
Old Point National Bank	New branch office in Ghent	N	D	2.80
P & P, LLC	Office/flex (4th building on site)	E	C	1.00
Residence Inn by Marriott	Extended-stay hotel	N	C	35.00
Riverside Terrace / Westport	Phasing townhouses and condominiums	N	D	80.00
Sentara Offices	48,000 sq ft office Poplar Halls	N	D	9.00
Sentara Garage	Colley Avenue	N	D	15.00
Sheraton Hotel	Renovation	E	C	32.00
SouthWind Apartment Community	120 apartments	N	C	15.00
TCC	Student center	N	A	17.60
The Franklin	Mixed-use upscale condominiums and professional offices	N	C	15.00
The Market at Ghent	Expansion to existing Farm Fresh store	E	C	3.00
The River House Apartments	197 apartments	N	C	36.00
Union Mission Building	Renovation into 60+ apartments	N	A	22.00
Virginia Arts Festival Headquarters	Offices and rehearsal studios	N	D	7.50
Virginia Zoo	Trail of the Tiger	E	D	11.00
Wells Fargo Center	Mixed-use Class A office, retail and residential	N	D	170.00
Westin Hotel & Conference Center	Hotel and conference center	N	D	150.00

Notes: (1) E/N – Expansion or New;  
(2) C/D/A – Completed, Under Development, or Announced

Source: Economic Development Department, City of Norfolk, Virginia.



### **Maritime Business Investment**

In 2007, Maersk Sealand opened a \$450 million cargo terminal on 560 undeveloped acres on the Portsmouth waterfront – across the Elizabeth River from the downtown and Berkley sections of Norfolk. The facility features 4,000 feet (1,219 meters) of deepwater berth space (four times the current amount), and serve as a Mid-Atlantic platform for future growth. The amount of cargo shipped through Hampton Roads is expected to at least double by 2020, in part due to the area's attraction as a major distribution center. A.P. Moller is the parent company of Maersk Sealand, the world's largest shipping line.

### **Military**

The presence and role of the military in Norfolk remains a positive force and continues to have a significant impact on the local economy. The City is the home of the world's largest naval complex, with headquarters for Commander in Chief of U.S. Atlantic Command, NATO's Supreme Allied Command Atlantic, Commander in Chief U.S. Atlantic Fleet and other major naval commands. Hampton Roads is the largest center of Coast Guard units in the world with the Atlantic Area Command and Maritime Defense Zone Atlantic in Portsmouth and its Maintenance & Logistic Command Atlantic headquarters in downtown Norfolk.

The Navy's direct economic impact on the region was \$14 billion in 2008, comprised of a total annual payroll of \$7.5 billion and the balance consumed on goods and services and procurement contracts. The City expects to continue as a center of activity for the Navy with current total personnel (military and civilian) in excess of 72,500. There were 84,267 active-duty Navy military personnel in Hampton Roads in 2008, of which 66% were assigned to Norfolk.

The Navy's newest local command, the Navy Reserve Forces Command, relocated to Norfolk from New Orleans in 2009. The Reserve Forces Command is the global headquarters for more than 68,000 reserve sailors and brought approximately 450 military and civilian employees to Hampton Roads. The Command is responsible for readiness, oversight, manpower management, logistics, mobilization and training of reserve sailors.

Although the military remains a key part of Hampton Roads' economy, the region has successfully diversified its economy in recent years.

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**SUMMARY OF WHOLESALE CONTRACTS**

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## **INTRODUCTION**

The City maintains wholesale contracts or water service agreements with Chesapeake, Virginia Beach, Portsmouth, the WTW and the Navy. These contracts and agreements set forth the amount of water to be sold, rate setting procedures, metering points, dispute resolution and other matters.

The descriptions of the contracts and agreements set forth below are brief outlines or summaries of certain of their provisions. Such outlines and summaries do not purport to be complete, and reference should be made to each respective contract or agreement. Copies of the contracts and agreements may be obtained from the City for a full and complete statement of their provisions.

Capitalized terms used and not defined in this Appendix E shall have the meanings given them in the applicable water service contract or agreement.

## **VIRGINIA BEACH, VIRGINIA**

The City of Norfolk ("Norfolk") and the City of Virginia Beach ("Virginia Beach") entered into a Water Services Contract originally dated July 14, 1993, and amended and restated as of February 14, 2001 (as amended and restated, the "Water Services Contract"). Capitalized terms used in this Appendix are defined in the Water Services Contract or in the Official Statement.

The Water Services Contract provides for Norfolk to store, wheel and treat Virginia Beach's Gaston and Stumpy Lake water (sometimes referred to herein as "Virginia Beach Water").

### **Term of Contract.**

The Water Services Contract is in effect until June 30, 2030, unless earlier terminated.

### **Water Treatment, Delivery Services and Obligations.**

Norfolk must receive and store Virginia Beach Water at locations satisfactory to both parties, transport the water through Norfolk's raw water system, treat the water, provide clear well storage, pump and transport the treated water to the metered points of delivery for the Virginia Beach Water distribution system, and perform all related acts to provide treated water to Virginia Beach. Virginia Beach must pay for these services and provide Virginia Beach Water. The Water Services Contract is a water services contract, not a contract for the sale of treated water, and the right of Virginia Beach to receive treated water under the Water Services Contract is dependent on Virginia Beach's ability to provide Virginia Beach Water, including, but not limited to, obtaining all necessary permits from governmental agencies, and constructing, operating and maintaining the Gaston pipeline, Stumpy Lake and Stumpy Lake pipeline providing Virginia Beach Water to discharge points satisfactory to Norfolk and Virginia Beach. Norfolk must obtain all permits required to construct, operate, maintain or expand Norfolk's water system in conjunction with performance of the Water Services Contract; provided, however, in obtaining or retaining any permit, Norfolk is only required to use its good faith best efforts by all reasonable legal means. Virginia Beach and Norfolk must cooperate and assist each other in obtaining the permits. Norfolk must also keep and maintain its water facilities in good working order in accordance with generally accepted standards for the operation and maintenance of a water system.

Except as otherwise provided in the Water Services Contract, Norfolk must deliver treated water to the Virginia Beach distribution system in such amounts as required by Virginia Beach, up to a total annual average amount of 45 mgd, but not to exceed 0.9 times the maximum sustainable rate of Gaston water which Virginia Beach is capable of delivering to Norfolk for Virginia Beach's use, plus 1.8 mgd for Stumpy Lake water. If the Stumpy Lake contract capacity increase option is exercised (as described under the caption "Effective Date" below), the maximum permissible total annual average amount stated above shall increase by 1.8 mgd to 46.8 mgd.

Virginia Beach is obligated to supply additional Virginia Beach Water above the Virginia Beach current monthly demand if requested by Norfolk, but is not required to supply an amount of Virginia Beach Water in any

consecutive 36-month period in excess of the amount of treated water delivered to Virginia Beach under the Water Services Contract during the same period adjusted for certain losses.

Norfolk is obligated to exercise due care and adhere to generally-accepted engineering practices in the planning, construction, operation, maintenance, and expansion of its water system in order to meet its obligations under the Water Services Contract. Norfolk may not use, sell, assign, or otherwise commit to supply water in excess of Norfolk's safe yield, transmission or treatment capacity except as otherwise provided in the Water Services Contract. Norfolk may sell water, pursuant to a written contract, in excess of its safe yield on an interruptible basis to industrial customers having installed and permitted alternate water sources available, with the consent of Virginia Beach, such consent not to be unreasonably withheld. Norfolk must terminate or restrict the supply of water to such interruptible customers (in accordance with the terms of each contract) in order that Norfolk can meet its obligations to Virginia Beach under the Water Services Contract.

#### **Delivery Points and Measurement.**

Norfolk must deliver treated water to Virginia Beach at the delivery points set forth in the Water Services Contract, and at such additional points as may be mutually agreed upon by the parties. Unless otherwise agreed by both parties, Norfolk must construct, own and maintain treated water meter vaults, meters, and all associated facilities located at the delivery points. Virginia Beach must provide Norfolk's employees and agents ingress and egress across property owned by Virginia Beach to all of Norfolk's premises inside Virginia Beach's boundaries to install, operate, inspect, test, and maintain pipelines, pump stations, and facilities, and to read meters owned or maintained by Norfolk within the city limits of Virginia Beach or on property controlled by Virginia Beach. Virginia Beach must install and operate raw water meter or meters capable of measuring the amount of water being delivered from the Gaston pipeline and the Stumpy Lake pipeline to Norfolk including totalizing and recording total flow and daily rates of flow. Each meter must be tested at least once every two years.

#### **Quality and Pressure of Water Delivered to Virginia Beach.**

Norfolk must provide the necessary water treatment facilities, operational practices and related services to ensure that the quality of treated water delivered to Virginia Beach pursuant to the Water Services Contract meets all potable water standards mandated by federal and state law, rule or regulation. Except as otherwise provided in the Water Services Contract, Virginia Beach bears the sole responsibility for maintaining water quality beyond the delivery points within the Virginia Beach distribution system.

#### **Rates and Charges.**

*Method of Rate Determination.* The annual rates charged by Norfolk for rendering treated water service under the terms of the Water Services Contract are based upon the utility basis of cost of service principles established by the American Water Works Association. Under such principles, Virginia Beach is charged for treated water service in a manner which recovers its allocable share of operation and maintenance expense, depreciation expense and return on rate base associated with the Norfolk water system.

*Operation and Maintenance Expense.* Virginia Beach must pay its share of annual expenses of the Norfolk water system, including appropriate departmental and city general overhead and payments in lieu of real estate and tangible personal property taxes, excluding payments to Norfolk's general fund and certain non-common payments.

*Depreciation Expense.* Virginia Beach must pay an annual depreciation expense associated with the Virginia Beach rate base, excluding construction work in progress.

*Return on Rate Base.* Virginia Beach must pay to Norfolk an annual return on the Virginia Beach rate base. The annual rate of return to be applied to the Virginia Beach rate base is computed by multiplying the embedded effective average annual interest cost of the Norfolk Utilities Department water system debt for the applicable rate year by 1.25.

*Rate Base.* The rate base for the purposes of the Water Services Contract is the original cost of the Norfolk water system less accrued depreciation (as shown on Norfolk's books and records). The rate base includes construction work in progress, expenditures which have been paid by Norfolk at the time of rate determination, and general facilities related to the Norfolk water system.

The rate base is allocated between Virginia Beach and Norfolk based on the contract allocation capacities and safe yield of Virginia Beach compared to the capacities of the Norfolk water system facilities serving Virginia Beach and the combined system safe yield. All facilities in the Norfolk water system providing service or benefit to Virginia Beach, including raw water supply, storage and transmission, treatment, pumping, storage, and treated water transmission mains, meters, and administrative and general facilities are included in the rate base subject to allocation to Virginia Beach. Excluded from the rate base subject to allocation to Virginia Beach are: fire hydrants; retail meters and services; all transmission and distribution facilities not used to serve Virginia Beach; and land, land rights and general plant related to excluded items; and certain contributed capital.

*Fixed Capacity Charge.* Virginia Beach must pay an annual fixed capacity charge sufficient to recover depreciation expense and the return on the Virginia Beach rate base. This fixed capacity charge is payable in equal monthly amounts during the year or years for which rates are applicable.

*Demand Charge.* Virginia Beach must pay an annual unit demand charge per mgd applied to the measured coincidental maximum hourly demand of Virginia Beach. The annual unit demand charge is based on the common to all operation and maintenance expense of the facilities providing service to Virginia Beach, excluding the energy portion of power costs, chemical costs, sludge disposal and other costs which vary directly with volume of treated water produced. The annual unit demand charge per mgd is 1.01 times the result of dividing the common to all operation and maintenance expense described in the preceding sentence by the sum of the Virginia Beach and Norfolk noncoincidental maximum hourly pumpage outputs at the Norfolk treatment plants providing service to Virginia Beach.

*Supplemental Demand Charge.* In the event that Virginia Beach's maximum hourly demand exceeds its contract hourly demand rate of 90 mgd, Virginia Beach must pay a supplemental demand charge for that portion of its maximum hourly demand which exceeds 90 mgd. The amount of the supplemental unit demand charge is equal to two (2) times the unit demand charge as determined in accordance with the formulas set forth above. If the Stumpy Lake contract capacity increase option is exercised (as described under the caption "*Effective Date*" below), the maximum hourly demand rate above shall be 93.6 mgd.

*Commodity Charge.* Virginia Beach must pay a commodity rate per 1,000 gallons of treated water. This charge is sufficient to recover the energy portion of power costs, chemical costs, sludge disposal, and other costs which vary directly with the volume of treated water produced. The Virginia Beach commodity charge is 1.01 times the amount determined by dividing the total variable cost described in the preceding sentence for the Norfolk water treatment plants providing service to Virginia Beach by the total treated water volume output of such Norfolk water treatment plants, in thousands of gallons.

*Biennial Adjustment of Rates.* Norfolk is obligated to develop projections of rates applicable to Virginia Beach for treated water service on a biennial basis based on a cost of service study prepared by an independent consulting firm. The projections of rates, along with a copy of the cost of service study, must be submitted to Virginia Beach not less than 120 days prior to the beginning of the two year period. Virginia Beach will be billed monthly for treated water service by Norfolk using the projected rates applicable to water use beginning with the first day of the applicable Fiscal Year and for the remainder of the two Fiscal Years. Such projections of rates, however, may be revised at any time, upon 60 days' advance notice, during the two Fiscal Years by Norfolk should unexpected significant increases or decreases in Virginia Beach's allocated portion of Norfolk's water system costs occur during the Fiscal Years; however, Norfolk may not adjust Virginia Beach's rates more than once during the two year period unless it also adjusts rates to its own retail customers.

Within six months after the end of the second Fiscal Year, Norfolk must complete and submit to Virginia Beach a true-up schedule of rates and annual billings applicable to the previous two Fiscal Years which reflects an allocation of costs of service based on actual cost and experience incurred by the Norfolk water system as shown in the audited books and records of Norfolk. The February, 2001, amendments to the amended and restated water

services contract clarified the contract's methodology as to cost of service and true-up adjustments. Any resulting credits or payments applicable to treated water service resulting from a true-up shall be divided into twelve equal payments or credits to be paid or applied during the second Fiscal Year.

#### **Source and Priority of Payments.**

*Source of Payment.* Virginia Beach must make payments of all charges for treated water service, as well as charges upon termination of the Water Services Contract (the "termination payments") and any other charges payable under the Water Services Contract, solely from revenues received by Virginia Beach from charges paid by users of its water and sewer system and available to it for such purposes for so long as Virginia Beach operates its water and sewer system on a combined basis; provided, however, if Virginia Beach chooses to operate its water system separate and apart from its sewer system, then such charges must be paid solely from revenues of its water system. The charges payable under the Water Services Contract are not deemed to create or constitute an indebtedness or a pledge of the faith and credit of the Commonwealth or of any county, city, town or other political subdivision thereof, including Virginia Beach, for purposes of any constitutional, statutory or charter limitations.

*Characterization of Charges under the Water Services Contract.* The demand charge, supplemental demand charge, commodity charge, fixed capacity charge and termination payments are deemed to be a part of the annual operating expense of the Virginia Beach water and sewer system, or the water system, as applicable.

Except as described in the following paragraph, the demand charge, supplemental demand charge, commodity charge, fixed capacity charge and termination payments must be paid prior to the debt service on any water and sewer revenue bonds or double barrel bonds of Virginia Beach.

The payment of the fixed capacity charge is on parity with the payment of debt service on certain bonds of Virginia Beach. The payment of the termination payments is subordinate to the payment of debt service on such bonds.

Other than as described above, Virginia Beach will not issue any water and sewer revenue bonds or double barrel bonds as long as the Water Services Contract is in full force and effect (including (i) certain refunding bonds and (ii) revenue or general obligation bonds, the proceeds of which finance the cost of termination payments), the debt service on which will be payable prior to or on parity with Virginia Beach's payment obligations under the Water Services Contract (*i.e.*, the demand charge, supplemental demand charge, commodity charge, fixed capacity charge and termination payments). Virginia Beach may not amend or supplement its Master Bond Resolution or enter into any successor indenture, trust agreement or resolution pledging the revenues of its water and sewer system, or its water system, as applicable, in such a way that will subordinate or adversely affect the pledge or the dignity thereof securing its payment obligations under the Water Services Contract (including the termination payments), without the written consent of Norfolk.

*Issuance of Bonds.* Virginia Beach retains the right under the Water Services Contract to issue either its revenue or general obligation bonds, the proceeds of which will finance the costs of making the termination payments. The determination as to whether to issue such bonds is within the complete control of Virginia Beach.

*Rate Covenant.* Virginia Beach must fix, charge and collect such rates, fees and other charges for the use of and for the services furnished by its water and sewer system, or its water system, as applicable, and must from time to time and as often as shall appear necessary, revise such rates, fees and other charges so that revenues received from its water and sewer or its water system, as appropriate, will be sufficient in each year to pay all amounts due under the Water Services Contract and all other operation and maintenance expenses of its water and sewer system, or its water system, as applicable.

#### **Reduced Water Usage By Virginia Beach.**

If Virginia Beach receives reduced quantities of treated water from Norfolk because Virginia Beach has developed or acquired additional treated water supplies, Virginia Beach must for the duration of the Water Services Contract pay the annual fixed capacity charge, and the commodity rate for the actual treated water delivered to



Virginia Beach. In addition, for a period of three years, Virginia Beach must pay the annual demand charge applied to the greater of its hourly demand for the year or the highest maximum hourly demand experienced during the five (5) years immediately preceding the reduction.

#### **Curtailment.**

The parties acknowledge in the Water Services Contract that supply or treatment problems may occur which prevent or limit Norfolk's ability to deliver treated water to Virginia Beach and/or Norfolk's other treated water customers. In the event that the conditions which prevent or limit Norfolk's ability to deliver treated water to Virginia Beach are applicable to other of Norfolk's customers, Norfolk must seek and, to the extent permitted by federal and state laws and regulations and national security constraints as declared by an official of the United States, enforce the imposition of treated water curtailment upon all affected customers, retail, wholesale or otherwise, in order that all such treated water customers will be similarly affected. If water supplies or services are curtailed in accordance with the procedures set forth above, Virginia Beach and Norfolk are obligated to cooperate by imposing conservation measures upon their respective customers. Neither Norfolk nor Virginia Beach are required to impose curtailments of water supply which would violate any requirements imposed by the State Water Control Board and other state and federal agencies and laws.

#### **Force Majeure and Hold Harmless.**

Norfolk is not liable to Virginia Beach for any act, omission, or circumstances occasioned by or in consequence of any act of God, strikes, lockouts, acts of the public enemy, wars, etc.

In case of breaks in the mains, or malfunction of pumping machinery, or other water works equipment, or the occurrence of any other event which makes it necessary temporarily to reduce pressure or cease delivery of water to Virginia Beach, Norfolk must, if practicable, give previous notice of one week. In no case may any claim for damage due to reduced water service or pressure be made by Virginia Beach, and Virginia Beach must hold Norfolk harmless from any third-party suit arising from, or related to, reduced water service or pressure on the Virginia Beach distribution system unless Norfolk's negligence was the cause of the reduced water service or pressure.

Virginia Beach must hold harmless and indemnify Norfolk against any claims or losses arising from receipt of Virginia Beach Water by Norfolk or delivery by Norfolk of treated water to Virginia Beach, unless Norfolk's negligence or failure to comply with its water quality obligations was the cause of the damage which gave rise to the claim or loss.

#### **Stumpy Lake Contract Capacity Increase.**

By reason of Virginia Beach's acquisition of Stumpy Lake, Virginia Beach may desire to request an increase of the Virginia Beach contract capacities provided for in the Water Services Contract, from an annual average day rate of 45 mgd to 46.8 mgd, a maximum day rate of 67.5 mgd to 70.2 mgd, and a maximum hour rate of 90 mgd to 93.6 mgd. Norfolk, in its sole opinion, shall determine whether existing uncommitted constructed capacity exists in Norfolk facilities capable of meeting any of such additional contract capacities. Upon affirmative notice by Norfolk of such existing uncommitted constructed capacity, the increased contract capacities shall become effective on July 1 of the following year.

### **Breaches Related to Treated Water Safe Yield.**

If Virginia Beach's treated water average day demand (measured at the metering points) exceeds the lesser of 45 mgd or 99.0% of its treated water safe yield, Virginia Beach must reduce its treated water usage such that it does not exceed the lesser of 45 mgd or 99.0% of its treated water safe yield. In such event, Virginia Beach must institute adequate measures to ensure that its demand does not exceed the lesser of 45 mgd or 99.0% of its treated water safe yield. In addition, in such event, Norfolk may restrict the amount of treated water Virginia Beach may receive to ensure that the usage of Virginia Beach does not exceed the lesser of 45 mgd or 99.0% of its treated water safe yield. If the Stumpy Lake contract capacity increase option is exercised, Virginia Beach's maximum permissible annual average day demand of 45 mgd shall be 46.8 mgd.

If the Virginia Beach average day demand (measured at the metering points) exceeds the lesser of 45 mgd or 99.0% of its treated water safe yield, for a Fiscal Year, then Virginia Beach must pay a supplemental charge for all usage above the lesser of 45 mgd or 99.0% of its treated water safe yield in addition to all other charges provided in the Water Services Contract. The supplemental charge is the rate of \$4.00 per 1,000 gallons multiplied by the sum of 1 plus .05 times the number of years since 1990. If the Stumpy Lake contract capacity increase option is exercised, Virginia Beach's maximum permissible annual average day demand of 45 mgd shall be 46.8 mgd.

If the combined treated water average day demand of Norfolk and all of its treated water customers (measured at the treatment plants), excluding Virginia Beach and any other customers for which and to the extent that Norfolk wheels and treats raw water (adjusted for losses), exceeds Norfolk's treated water safe yield, then Norfolk must reduce its usage and that of its treated water customers, other than Virginia Beach and any other customers for which and to the extent that Norfolk wheels and treats their raw water (adjusted for losses), such that their combined treated water usage does not exceed Norfolk's treated water safe yield. In addition, in such event, Norfolk must at the request of Virginia Beach, to the extent permitted by federal and state laws and regulations and national security constraints as declared by an official of the United States, restrict the amount of treated water that Norfolk and its customers may receive to ensure that the combined usage of Norfolk and its customers (excluding Virginia Beach and any other customers for which and to the extent that Norfolk wheels and treats their raw water (adjusted for losses)) does not exceed Norfolk's treated water safe yield.

If the combined treated water average day demand of Norfolk and its customers (excluding Virginia Beach, any other customers for which and to the extent that Norfolk wheels and treats raw water, adjusted for losses, and interruptible) at the treatment plants exceeds Norfolk's treated water safe yield for a Fiscal Year, then it must pay a supplemental charge to Virginia Beach for all use above Norfolk's treated water safe yield. The supplemental charge is equal to \$4.00 per 1,000 gallons multiplied by the sum of 1 plus .05 times the number of years since 1990.

### **Breaches Related to Contract Capacities.**

If Virginia Beach's average day, maximum day or maximum hour demand exceeds the capacities contracted for and set forth in the Water Services Contract, then Virginia Beach must reduce its treated water demands to the average day, maximum day, and maximum hour capacities for which it has contracted in the Water Services Contract. To ensure that the necessary reductions do occur, Virginia Beach must institute adequate conservation measures. In addition, in such event, Norfolk may restrict the rate at which Virginia Beach may receive water to ensure that the demands of Virginia Beach do not exceed the average day, maximum day, or maximum hour capacities for which Virginia Beach has contracted.

### **Other Breaches.**

If either party breaches any term of the Water Services Contract, the other party must give written notice of the breach, identifying the provision(s) of the Water Services Contract which are being breached. The breaching party has six months from the date of the notice within which to cure the breach. In the event the breach remains uncured for six months, then the breaching party must pay to the other, for each 30 days or portion thereof the breach remains uncured, in addition to all other payments due under the Water Services Contract, an amount, beginning with the seventh month, equal to 10% of the total charge for water on a monthly basis due by the City of Virginia Beach to Norfolk. This 10% amount increases to 50% should the breach remain uncured for an uninterrupted period of twelve months. However, no payment is required so long as the party in breach makes a

continuous, good faith effort to cure the breach. These provisions of the Water Services Contract do not apply to the conditions, breaches and circumstances with respect to rates and charges or breaches related to treated water safe yield.

**Termination by Norfolk.**

Norfolk may terminate the Water Services Contract if one (1) of the following events occurs:

(a) The Gaston pipeline is not 50% complete by June 30, 1998, with (i) all permits and approvals still in force for the construction in progress and (ii) all permits and approvals necessary to withdraw water from Lake Gaston and have the pipeline fully operational.

(b) The Gaston pipeline is not 100% complete and fully operational by June 30, 2000, with all permits and approvals still in force.

(c) Virginia Beach does not give authorization for the construction of the Plant Hydraulic Improvements prior to January 1, 1997.

(d) Virginia Beach does not pay in full a statement within 120 days of receipt unless the unpaid portion of such statement has been submitted to the dispute resolution process set forth in the Water Services Contract.

(e) Virginia Beach has a total and permanent loss of ability to deliver Virginia Beach Water to Norfolk, including, but not limited to, equipment failure or destruction, or the loss of any required permit, approval, or authority. Such loss is deemed permanent if it continues for twenty-four consecutive months.

(f) Virginia Beach willfully and continuously breaches any term of the Water Services Contract which significantly affects the operation of the Water Services Contract.

Upon termination of the Water Services Contract by Norfolk after the Gaston Pipeline is fully operational, Virginia Beach may receive water from Norfolk (in amounts to be determined by Norfolk) for three (3) years after the effective date of termination, if Norfolk has sufficient surplus water available, provided, however, if there is a then existing surplus water contract between Norfolk and Virginia Beach, then the terms of the surplus water contract govern. Virginia Beach must pay for all such surplus water at a rate equal to two (2) times the sum of the charges which would be applicable under the Water Services Contract. Except as described in this paragraph, Virginia Beach is not entitled to receive any water under the terms of the Water Services Contract after the effective date of termination of the Water Services Contract.

If Virginia Beach receives water from Norfolk which is not provided for under the terms of the Water Services Contract or another written contract between the parties, Virginia Beach must pay for all such water received at a rate equal to three (3) times the sum of the charges which would be applicable under the Water Services Contract.

In the event that the Water Services Contract was terminated by Norfolk prior to the date that Virginia Beach received services under the Water Services Contract and prior to the date Virginia Beach authorized the construction of the Plant Hydraulic Improvements, Virginia Beach was obligated to make certain payments to Norfolk as if Virginia Beach had terminated the Water Services Contract. In the event that the Water Services Contract was terminated by Norfolk prior to the date that Virginia Beach received services under the Water Services Contract and after the date Virginia Beach authorized the construction of the Plant Hydraulic Improvements, Virginia Beach was obligated to make certain other payments to Norfolk as if Virginia Beach had terminated the Water Services Contract. In the event that the Water Services Contract was terminated by Norfolk, after the date that Virginia Beach received services under the Water Services Contract, or by Virginia Beach, Virginia Beach was obligated to pay to Norfolk an amount equal to the rate base allocated to Virginia Beach under the most recent cost of service study, provided such facilities are not necessary for Norfolk to provide service to Norfolk or customers of Norfolk with contracts for the sale of water, including Virginia Beach.

### **Termination by Virginia Beach.**

Virginia Beach had the option to terminate the Water Services Contract at any time prior to authorizing construction of the Plant Hydraulic Improvements by providing written notice. Virginia Beach also had the option to terminate the Water Services Contract at any time after notifying Norfolk to proceed with the Plant Hydraulic Improvements and prior to receiving services pursuant to the Water Services Contract, if Virginia Beach believes that the Gaston pipeline will not become fully operational.

The preceding termination rights have expired due to the commencement of construction of the Plant Hydraulic Improvements and the completion of the Gaston pipeline. Except as otherwise provided in the preceding paragraph, Virginia Beach may terminate the Water Services Contract if one (1) of the following events occurs:

(a) Norfolk has a permanent and total loss of ability to wheel and treat Gaston water for 24 consecutive months.

(b) Norfolk willfully and continuously breaches any term of the Water Services Contract which significantly affects the operation of the Water Services Contract.

(c) Virginia Beach has a total and permanent loss of ability to deliver Gaston water to Norfolk, including, but not limited, equipment failure or destruction, or the loss of any required permit, approval or authority. Such loss is deemed permanent if it continues for 24 consecutive months.

Upon the effective date of termination by Virginia Beach other than for events specified in subparagraph (c) above, Virginia Beach has no further obligations or responsibilities to Norfolk under the Water Services Contract except to pay any outstanding amounts due for service provided under the Water Services Contract.

### **UNITED STATES DEPARTMENT OF THE NAVY**

In 1981, the City entered into a utility service contract for water service with the Navy for the delivery of water to the gates of the various Navy installations located in the City and outside the City. The contract was modified effective July 1, 2003, to establish treated water rates applicable to the Naval facilities located in Norfolk and Virginia Beach. In January 2008, the City and the Navy agreed in principle to a renewal of the contract through June 30, 2011 based on the retail rate 10%. Sales to the Navy averaged 4.21 mgd for Fiscal Year 2010, which represents approximately 6.3% of the total metered water consumption of the Water System.

### **Rates and Charges.**

The Navy agreed to pay the rates ranging from \$3.04/cct to \$3.84/cct Fiscal Years 2004 through 2008 for treated water delivered to the point of delivery as contained in the Water Services Specifications (as defined in the contract) during the term of the contract.

The rates set forth above are the amended rates applied to the actual amount of water delivered to the points of delivery. In 2003, the contract with the Navy was amended so that the Navy rate is the City retail water rate plus 10%. Since the payment for services is now based on the established retail rate, there will be no future adjustments to the rate based on a true-up cost of service study. The current contract expires June 30, 2011.

Prior to the contract modification with the Navy, the City's contract required a biennial true-up of rates. The Defense Contract Audit Agency ("DCAA") completed the Fiscal Year 2002/Fiscal Year 2003 True-Up in March 2006. The water charge for the Fiscal Year 2002/Fiscal Year 2003 True-Up period was \$3.9 million. In May 2007, the City of Norfolk offered a settlement amount of \$1.9 million. The Navy had requested that the City apply the 2004 fixed rates and had claimed that \$3,500,000 be rebated as a result of the application of the 2004 rates. The City reviewed the claim of the Navy and believed that the claim was without merit. On January 28, 2008, a preliminary agreement was reached and the Navy accepted the City's \$1.9 million settlement.

### **Disputes Clause.**

The contract is subject to the Contract Disputes Act of 1978 (the “Disputes Act”). Except as provided in the Disputes Act, all disputes arising out of the contract shall be resolved as specified in the contract. The Contracting Officer’s decision will be final unless appealed by the City or a suit is filed by the City as provided in the Disputes Act.

In the event of a disagreement, the City shall continue to provide water service and the Navy shall continue to pay the City at the then existing rate. After a determination of the final rates, the Navy shall promptly pay from that point forward such rates that are determined to be just and reasonable.

### **CITY OF PORTSMOUTH, VIRGINIA**

In October 2002, the City entered into a contract with Portsmouth for sale of emergency raw water. The Contract was amended in September 2007 and again in November 2008, in each case to increase the rates paid by Portsmouth under the Contract. Portsmouth has constructed and tested the necessary improvements to convey raw water to its reservoirs.

### **Delivery Point, Plan, Construction and Operation.**

Portsmouth financed, designed, constructed and operates the Raw Water Delivery System pursuant to the Contract. In September 2004, the City provided Portsmouth written approval and acceptance of the Raw Water Delivery System after assurance was received that the improvements provide proper and safe integration with the City’s Water System. On September 11, 2007 (the “Portsmouth Start-up Date”), the City provided Portsmouth with service of 10 mgd of temporary surplus raw water.

### **Delivery and Sale of Temporary Surplus Raw Water.**

Following the Portsmouth Start-up Date, the City shall endeavor to deliver and sell to Portsmouth up to 10 mgd of Temporary Surplus Raw Water. Temporary Surplus Raw Water means the difference between the Safe Yield of the City’s Water System after adjusting for losses, and the total of (i) the amount of raw water required to supply the persons and entities in the City with treated water, (ii) the amount of raw water required to supply raw and treated water to the City’s United States government customers and (iii) the amount of raw water required to supply raw and treated water to the City’s other existing and future customers under fixed term contracts.

### **Water Rates and Charges.**

The rate of the Temporary Surplus Raw Water sold pursuant to the contract shall be \$1.11 per thousand gallons of Temporary Surplus Raw Water delivered to the Delivery Point, subject on July 1 of each year to an adjustment based on the CPI Adjustment Factor; provided, however, in no event shall the rate decrease from the previous fiscal year.

### **Term of Contract.**

The contract shall continue to be in effect until either party, on 10 days’ written notice, terminates the contract.

### **CITY OF CHESAPEAKE, VIRGINIA**

In December 2002, the City entered in to a raw water sales contract with Chesapeake for the sale of surplus raw water. The contract specifies the terms and conditions of the sale of raw water, rates, termination provisions and dispute resolution. Raw water sales to Chesapeake averaged 3.29 mgd in Fiscal Year 2010 which represents approximately 4.9% of the Water System’s total metered water consumption.

### **Term of Contract.**

The contract is for a term beginning January 1, 2003, and ending December 31, 2042. Pursuant to the contract, the City began service to Chesapeake as of July 1, 2006 (the "Chesapeake Start-up Date").

### **Delivery and Sale of Surplus Raw Water.**

Upon and following the Chesapeake Start-up Date, the City agrees to sell and deliver to Chesapeake and Chesapeake agrees to accept the Target Amount transmitted to the extent practical at a uniform flow rate. The initial Target Amount shall be seven mgd.

In the event that the metered amount of Surplus Raw Water delivered in a Billing Month is less than the Target Amount multiplied by the number of days in the Billing Month (the difference being a "Shortfall"), Chesapeake may request, in addition to the Target Amount, that an amount up to such Shortfall be delivered in subsequent Billing Months.

Chesapeake may request to temporarily or permanently increase the Target Amount. If the City determines that it can satisfy such request, the City at its sole discretion, may agree to increase the Target Amount accordingly. Chesapeake may request to temporarily decrease the Target Amount and, upon agreement by the City, the Target Amount shall be decreased.

### **Water Rates and Charges.**

The initial Water Rate was ninety-five cents (\$0.95) per thousand gallons of Surplus Raw Water sold, which rate was effective through June 30, 2003. Beginning on July 1, 2003, and upon each July 1 thereafter, the Water Rate is adjusted by multiplying the Water Rate by the greater of (i) the CPI Adjustment Factor or (ii) 100%. In no event shall the Water Rate decrease.

Chesapeake shall make monthly payments for the metered amount of Surplus Raw Water delivered. Chesapeake's monthly payment shall equal the Target Amount, which is seven mgd, multiplied by the number of days in the Billing Month unless, (i) Chesapeake and Norfolk have agreed to decrease the Target Amount, in which case such decreased Target Amount shall be used in such calculation; (ii) the average daily flow for a billing month exceeds 0.75 mgd over the sum of the Target Amount plus the average daily volume of Shortfall, in which case Chesapeake's monthly payment for such month shall equal the sum of the Target Amount, plus the average daily volume of Shortfall delivered, plus 0.75 mgd multiplied by the number of days in that Billing Month; and (iii) the amount of Shortfall delivered in any Billing Month shall be included in the total volume of Surplus Raw Water delivered for the calculation of that Billing Month's monthly payment; provided, however, that the Water Rate charged for any amount of delivered Shortfall shall be the Water Rate in effect for the Billing Month during which such Shortfall was initially determined.

### **Reductions and Curtailments.**

The City may reduce the Target Amount of Surplus Raw Water delivered to Chesapeake only if one or more of the following conditions occur:

- (i) decrease in Surplus Water Supply;
- (ii) facility or equipment failure;
- (iii) drought;
- (iv) contamination; and
- (v) force majeure.

**Termination by the City.**

The City may terminate the contract if one or more of the following events of default occurs: (i) Chesapeake does not pay in full within 60 days from the date of receipt of an invoice, (ii) Chesapeake has willfully breached the terms of the contract which significantly affects the operation of the contract, or (iii) construction of the Raw Water Delivery System is not fully complete within five years of the established Start-up date of July 1, 2006.

**Termination by Chesapeake.**

Chesapeake may terminate the contract if: (i) the City has willfully breached any term of the contract which significantly affects the operation of the contract or (ii) the City delivers less than the difference of the Target Amount minus 0.75 mgd for more than six consecutive Billing Months.

**Pre-existing Surplus Treated Water Purchase Arrangement.**

Chesapeake has been purchasing surplus treated water from the City for over 30 years. No term of the raw water contract shall reduce or waive either party's rights or obligations regarding the City's sale to Chesapeake of surplus treated water. As part of the raw water contract, the City agrees to continue selling and Chesapeake agrees to continue purchasing no less than two mgd of surplus treated water as long as the raw water sales contract is effective.

**WESTERN TIDEWATER WATER AUTHORITY**

In September 2009, the City entered into a raw water sales contract with the Western Tidewater Water Authority ("WTWA") and Suffolk and Isle of Wight, the members of WTWA, for the sale of available surplus raw water supply to WTWA. The contract specifies the terms and conditions of the sale of raw water, rates, termination provisions and dispute resolution.

The contract is a "take or pay" contract, requiring the City to make available the Contract Amounts, which are the Average Day Amounts, the Maximum Month Amounts and the Maximum Day Amounts specified in the contract, and WTWA to pay for those Contract Amounts, regardless of actual consumption.

**Term of Contract.**

The contract is for a term beginning September 29, 2009, and ending June 30, 2048. Pursuant to the contract, the City will begin service to WTWA on the earlier of (i) the day on which water begins to flow to the Delivery Point(s) based on a determination by the City and WTWA that the Raw Water Delivery System is operational and capable of delivering the amounts required by the contract or (ii) February 1, 2014 (the "WTWA Start-up Date").

**Delivery and Sale of Surplus Raw Water.**

Upon and following the WTWA Start-up Date, the City agrees to sell and deliver to WTWA and WTWA agrees to purchase water in accordance with the Contract Amounts set forth in the contract. WTWA shall not be obligated to take delivery of the entire Contract Amounts.

Should WTWA request delivery of water in excess of the Maximum Day, Maximum Month and/or Average Day Amounts, other than water for a WTWA Emergency, at the City's sole discretion, the Contract Amounts may be adjusted to meet the request. At the end of any Fiscal Year during which Contract Amounts have been adjusted, the City may, in its sole discretion, determine that the Contract Amounts will remain at such increased amounts for the following Fiscal Year or revert to the Contract Amounts set forth in the contract. In no event shall the Contract Amounts exceed the highest Contract Amount set forth in the contract.

WTWA may request permanent acceleration of the Contract Amounts. The City is required to comply with such request unless (i) water is unavailable due to a temporary water sales contract in effect, (ii) the facilities and/or

water resources necessary to provide additional water cannot be made available, or (iii) the Contract Amounts have been reduced due to reduction in the City's Safe Yield under the contract.

WTWA may request raw water to meet a bona fide WTWA Emergency. If the City determines that additional water is available, taking into consideration the City's other existing demands, the City may, in its sole discretion, deliver the water to WTWA. The supply of water to meet a WTWA Emergency shall not be used to determine whether Contract Amounts have been exceeded or to reduce the Reservation Amount or Reservation Fee set forth in the contract.

### **Water Rates and Charges.**

*Water Rates.* The initial Water Rate was one dollar and eleven cents (\$1.11) per thousand gallons, which rate was effective through July 1, 2009. Beginning on July 1, 2009, and upon each July 1 thereafter, the Water Rate is adjusted by multiplying the Water Rate by the CPI Adjustment Factor. In no event shall the Water Rate decrease from the previous Fiscal Year.

For the period from July 1, 2008 until the WTWA Start-Up Date, WTWA shall pay the City the Monthly Water Payment Amount without regard to whether water is available to be delivered. On and after the WTWA Start-Up Date, WTWA shall pay Norfolk the Monthly Water Payment Amount, subject to certain adjustments provided for in the contract.

*Reservation Fee.* Pursuant to the contract, WTWA shall pay a Monthly Reservation Fee. The Monthly Reservation Fee shall be calculated by multiplying the Reservation Amount set forth in the contract by the percentages specified in the contract. For the period from January 1, 2011 through the WTWA Start-Up Date, the percentage used to calculate the Monthly Reservation Fee is 20% and thereafter it is 25%.

### **Plan, Construction and Operations.**

The Raw Water Delivery System is broken into the WTWA Portion of Plan and the Norfolk Portion of Plan. Both WTWA and the City are responsible for the planning, bidding, construction and testing of their respective portions of the Raw Water Delivery System in accordance with the construction protocol set forth in the contract.

The City shall be under no obligation to deliver water to WTWA by the WTWA Start-Up Date and WTWA shall be under no obligation to pay any amounts that would be required after the WTWA Start-Up Date if the Raw Water Delivery System cannot be completed by such date due to the failure of the other party to timely (i) design, bid and/or construct its respective Portion of the Plan, (ii) review the design, bids and/or contracts for the other party's Portion of the Plan, (iii) test the Raw Water Delivery System, (iv) make modifications for failure of the Raw Water Delivery System to conform to the Plan or necessitated by adverse impacts to the Water System shown after testing. Additionally, the City shall be under no obligation to deliver water to WTWA by the WTWA Start-Up Date if WTWA fails to reimburse the City for the City's Capital Costs as provided in the contract.

Following construction of the Raw Water Delivery System, each party is solely responsible for the operation and maintenance of its respective Portion of Plan.

### **Reductions and Curtailments.**

The City's obligation to provide the full Contract Amounts shall be excused, either partially or wholly, only if one or more of the following conditions occur:

- (i) decrease in the amount of Surplus Raw Water available;
- (ii) facility or equipment failure;
- (iii) drought; and



- (iv) force majeure.

Upon WTWA's request, the City may in its sole discretion make up the delivery shortfall (or a portion thereof) by delivering additional water. If the City does not deliver additional water, WTWA shall be entitled to a credit for such delivery shortfall at the end of the applicable Fiscal Year.

**Termination by the City.**

The City may terminate the contract if: (i) WTWA does not pay in full within 60 days from the date of a receipt of an invoice, or (ii) WTWA, Suffolk or Isle of Wight has breached any other term of the contract.

**Termination by WTWA.**

WTWA may terminate the contract if: (i) the City does not deliver water in the amounts requested and when requested by WTWA as provided in the contract except as excused under the contract and in the event of a minor variance managed in accordance with the contract, or (ii) the City has breached any other term of the contract.

**Guarantee by Suffolk and Isle of Wight.**

In consideration of the City agreeing to the terms of the contract, Suffolk and Isle of Wight guarantee the payment obligations of WTWA under the contract, to the extent permitted by law and to the extent that any such guarantee is not deemed to be debt pursuant to the Constitution of Virginia. The guarantee is initially apportioned 75% to Suffolk and 25% to Isle of Wight. The apportionment may be adjusted by Suffolk and Isle of Wight upon joint notice to the City of such reapportionment.

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## **APPENDIX F**

### **PROPOSED FORM OF OPINION OF BOND COUNSEL**

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## **Appendix F**

### **Form of Bond Counsel Opinion 2010 Bonds**

*Set forth below is the proposed form of the opinion of McGuireWoods LLP, Bond Counsel. It is preliminary and subject to change prior to the delivery of the 2010 Bonds.*

[Letterhead of McGuireWoods LLP]

September 14, 2010

Mayor and Council of the  
City of Norfolk, Virginia  
Norfolk, Virginia

**\$47,415,000  
City of Norfolk, Virginia  
Water Revenue Bonds,  
Series 2010**

Ladies and Gentlemen:

We have served as Bond Counsel in connection with the issuance and sale by the City of Norfolk, Virginia (the "City"), of its \$47,415,000 Water Revenue Bonds, Series 2010 (the "2010 Bonds"), dated the date of delivery. The 2010 Bonds are issued pursuant to a Master Indenture of Trust dated as of November 1, 1993, as previously supplemented and amended (the "Master Indenture"), between U.S. Bank National Association, as successor trustee to SunTrust Bank and Crestar Bank by merger, (the "Trustee") and the City, as supplemented and amended by an Eighth Supplemental Indenture of Trust dated as of September 1, 2010 (the "Eighth Supplemental Indenture"), between the Trustee and the City. The Master Indenture and the Eighth Supplemental Indenture are referred to collectively as the "Indenture." Unless otherwise defined, each capitalized term used in this opinion has the meaning given to it in the Indenture.

We refer you to the 2010 Bonds and the Indenture for a description of the purposes for which the 2010 Bonds are issued, their terms and the security for them.

In connection with this opinion, we have examined the Constitution of Virginia and the applicable laws of both the United States and the Commonwealth of Virginia, including without limitation the Internal Revenue Code of 1986, as amended (the "Code"), and the Public Finance

Act of 1991, Chapter 26, Title 15.2, Code of Virginia of 1950, as amended, and copies of proceedings and other documents relating to the issuance and sale of the 2010 Bonds by the City as we have deemed necessary to render this opinion.

As to questions of fact material to this opinion, we have relied upon (a) representations of the City, including, without limitation, representations as to the use of proceeds of the 2010 Bonds, (b) certifications of public officials furnished to us, and (c) representations and certifications contained in certificates of the City and others delivered at closing, without undertaking to verify them by independent investigation. We have assumed that all signatures on documents, certificates, and instruments examined by us are genuine, all documents, certificates, and instruments submitted to us as originals are authentic, and all documents, certificates, and instruments submitted to us as copies conform to the originals. In addition, we have assumed that all documents, certificates, and instruments relating to this financing have been duly authorized, executed, and delivered by all parties to them other than the City, and we have further assumed the due organization, existence, and powers of all parties other than the City.

Based on the foregoing, in our opinion, under current law:

1. The City has the requisite authority and power to enter into the Indenture to issue and sell the 2010 Bonds, and to apply the proceeds from the issuance and sale of the 2010 Bonds as set forth in the Eighth Supplemental Indenture. Neither the faith and credit of the Commonwealth of Virginia nor the faith and credit of the City or any other political subdivision of the Commonwealth of Virginia are pledged to the payment of the principal of or premium, if any, or interest on the 2010 Bonds.

2. The 2010 Bonds have been duly authorized, executed, and delivered in accordance with the Constitution and statutes of the Commonwealth of Virginia and the Indenture and constitute valid and binding limited obligations of the City, payable solely from the Net Revenues and other property pledged for such purpose under the Indenture for the security of the 2010 Bonds on a parity with the Outstanding 1993 Bonds, 1995 Bonds, 1998 Bonds, 2001 Bonds, 2005 Bonds and 2008 Bonds (collectively, the "Outstanding Bonds"), any Additional Bonds to be issued in the future under the Indenture and any Parity Indebtedness.

3. The Indenture has been duly authorized, executed, and delivered by the City, constitutes a valid and binding obligation of the City, and is enforceable against the City in accordance with its terms. The Eighth Supplemental Indenture complies in all respects with the requirements of the Master Indenture.

4. The Master Indenture requires the City to fix, revise, and collect rates, fees, and other charges for the use of and for the services furnished by the System so that Net Revenues will be at least sufficient to pay when due, among other things, Operating Expenses and the principal of and interest on the Outstanding Bonds and the 2010 Bonds.

5. Additional Bonds may be issued and Parity Indebtedness incurred from time to time under the conditions, limitations, and restrictions set forth in the Master Indenture, and will be secured equally and ratably as to the pledge of Net Revenues with the Outstanding Bonds and the 2010 Bonds.

6. The obligations of the City under the 2010 Bonds and the Indenture are subject to the provisions of applicable bankruptcy, insolvency, reorganization, moratorium, and similar laws, now or hereafter in effect, relating to or affecting the enforcement of creditors' rights generally. Such obligations are also subject to usual equitable principles, which may limit the specific enforcement of certain remedies but which do not affect the validity of the obligations.

7. Interest on the 2010 Bonds, including any accrued "original issue discount" properly allocable to the owners of the 2010 Bonds, is (i) excludable from gross income for purposes of federal income taxation under Section 103 of the Code, (ii) not a specific item of tax preference for purposes of the federal alternative minimum income tax imposed on individuals and corporations and (iii) excludable from adjusted current earnings for purposes of computing the alternative minimum tax imposed on corporations (as defined for federal income tax purposes) under Section 56 of the Code. The "original issue discount" on any 2010 Bond is the excess of its stated redemption price at maturity over the initial offering price to the public at which price a substantial amount of the 2010 Bonds of the same maturity was sold. The "public" does not include bond houses, brokers or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers. We express no opinion regarding other federal tax consequences arising with respect to the 2010 Bonds.

In delivering this opinion, we are (i) relying upon and assuming the accuracy of representations and certifications of representatives of the City as to facts material to the opinion, and (ii) assuming continuing compliance with the Covenants (as defined below) by the City, so that interest on the 2010 Bonds will remain excludable from gross income for federal income tax purposes. The Code and the regulations promulgated thereunder contain a number of requirements that must be satisfied after the issuance of the 2010 Bonds in order for interest on the 2010 Bonds to be and remain excludable from gross income for purposes of federal income taxation. These requirements include, by way of example and not limitation, restrictions on the use, expenditure and investment of the proceeds of the 2010 Bonds and the use of the property financed or refinanced by the 2010 Bonds, limitations on the source of the payment of and the security for the 2010 Bonds, and the obligation to rebate certain excess earnings on the gross proceeds of the 2010 Bonds to the United States Treasury. The City's tax certificate for the 2010 Bonds (the "Tax Certificate") contains covenants (the "Covenants") under which the City has agreed to comply with such requirements. Failure by the City to comply with the Covenants could cause interest on the 2010 Bonds to become includable in gross income for federal income tax purposes retroactive to their date of issue. In the event of noncompliance with the Covenants, the available enforcement remedies may be limited by applicable provisions of law

Mayor and Council of the  
City of Norfolk, Virginia  
September 14, 2010  
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and, therefore, may not be adequate to prevent interest on the 2010 Bonds from becoming includible in gross income for federal income tax purposes.

We have no responsibility to monitor compliance with the Covenants after the date of issue of the 2010 Bonds.

Certain requirements and procedures contained, incorporated or referred to in the Tax Certificate, including the Covenants, may be changed and certain actions may be taken or omitted under the circumstances and subject to the terms and conditions set forth in such document.

8. Interest on the 2010 Bonds is excludable from gross income of the owners thereof for purposes of income taxation by the Commonwealth of Virginia. We express no opinion regarding (i) other Virginia tax consequences arising with respect to the 2010 Bonds or (ii) any consequences arising with respect to the 2010 Bonds under the tax laws of any state or local jurisdiction other than the Commonwealth of Virginia.

Our services as Bond Counsel have been limited to rendering the foregoing opinion based on our review of such legal proceedings as we deem necessary to approve the validity of the 2010 Bonds and the income tax status of the interest on them. We have not been engaged and have not undertaken to review the accuracy, completeness or sufficiency of the Official Statement or other offering material relating to the 2010 Bonds and, therefore, we express no opinion as to the accuracy or completeness of any information that may have been relied upon by any owner of the 2010 Bonds in making a decision to purchase the 2010 Bonds.

Very truly yours,



## **APPENDIX G**

### **FORM OF CONTINUING DISCLOSURE AGREEMENT**

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## **CONTINUING DISCLOSURE AGREEMENT**

This Continuing Disclosure Agreement (the "Disclosure Agreement") is executed and delivered by the City of Norfolk, Virginia (the "City"), in connection with the issuance by the City of \$47,415,000 original aggregate principal amount of its Water Revenue Bonds, Series 2010 (the "2010 Bonds"), pursuant to Ordinance No. 43,931 adopted by the Council of the City on July 20, 2010 (the "Ordinance"), and a Master Indenture of Trust (the "Master Indenture") dated as of November 1, 1993, as previously supplemented and amended, between the City and Crestar Bank, as trustee (the "Trustee"), as further supplemented and amended by an Eighth Supplemental Indenture of Trust dated as of September 1, 2010, between the City and U.S. Bank National Association, as successor trustee to SunTrust Bank and Crestar Bank by merger (collectively, the "Indenture"). The proceeds of the 2010 Bonds are being used by the City, along with other available funds, (i) to finance certain costs of acquiring, constructing and equipping capital improvements to the City's water system, (ii) to provide the funding for the debt service reserve fund for the 2010 Bonds and all other bonds outstanding under the Master Indenture, and (iii) to pay the financing and issuance costs of the 2010 Bonds. Pursuant to the Ordinance, the City approved the offering and sale of the 2010 Bonds to the public pursuant to an Official Statement relating to the 2010 Bonds, dated September 14, 2010 (the "Official Statement"). The City has determined that it constitutes an "obligated person" within the meaning of the Rule (hereinafter defined) with respect to the 2010 Bonds and, accordingly, hereby represents, covenants and agrees as follows:

**Section 1. Purpose of the Disclosure Agreement; Representation.** This Disclosure Agreement is being executed and delivered by the City for the benefit of the Holders (as defined below) and in order to assist the Participating Underwriters (as defined below) in complying with the Rule (as defined below). The City acknowledges that it is undertaking primary responsibility for any reports, notices or disclosures that may be required under this Disclosure Agreement.

**Section 2. Definitions.** In addition to the definitions set forth in the Ordinance, which apply to any capitalized term used in this Disclosure Agreement unless otherwise defined in this Section, the following capitalized terms shall have the following meanings:

"Annual Financial Information" with respect to any Fiscal Year of the City means the following:

- (i) the financial statements (consisting of at least a statement of net assets, a statement of cash flows and a statement of revenues, expenses and changes in fund net assets and thereafter a statement of net assets, a statement of cash flows and a statement of revenues, expenses and changes in fund net assets) of the City's Water Utility Fund, which (A) are prepared annually in accordance with generally accepted accounting principles in effect from time to time consistently applied (provided that nothing in this Disclosure Agreement will prohibit the City after the date of the Official Statement from changing such principles so as to comply with generally accepted accounting principles as then in effect or to comply with a change in applicable Virginia law); and (B) are audited by an independent certified public accountant or firm of such accountants

in accordance with generally accepted auditing standards as in effect from time to time; and

(ii) updates of the operating data contained in the following sections and subsections of the Official Statement entitled: (a) "THE SYSTEM" -- "Customer Base" (but only with respect to Table 1, Average Metered Consumption); and (b) "FINANCIAL MANAGEMENT" -- "Water Rates" (but only with respect to Table 10, Retail Customers' Average Annual Costs Norfolk Retail, Table 11, Wholesale Customers' Average Annual Costs Virginia Beach, Table 12, Wholesale Customers' Average Annual Costs U.S. Navy, including Norfolk and Virginia Beach and Table 13, Wholesale Customers' Average Annual Costs Chesapeake) and "Budget Process" (but only with respect to Table 16, Water Utility Fund Annual Budget for the two most recent fiscal years). All of the operating data to be provided pursuant to this subparagraph may be presented in the form of tables.

"Dissemination Agent" shall mean the City, acting in its capacity as Dissemination Agent hereunder, or any successor Dissemination Agent designated in writing by the City and which has filed with the City a written acceptance of such designation.

"Fiscal Year" shall mean the twelve-month period, at the end of which the financial position of the City and the results of its operations for such period are determined. Currently, the City's Fiscal Year begins July 1 and continues through June 30 of the next year.

"Holder" shall mean, for purposes of this Disclosure Agreement, any person who is a record owner or beneficial owner of a 2010 Bond.

"Make Public" or "Made Public" has the meaning set forth in Section 4 of this Disclosure Agreement.

"MSRB" shall mean the Municipal Securities Rulemaking Board.

"Participating Underwriter" shall mean any of the original underwriters of the 2010 Bonds required to comply with the Rule in connection with the offering of such 2010 Bonds.

"Rule" shall mean Rule 15c2-12 under the Securities Exchange Act of 1934 and any similar rules of the SEC relating to disclosure requirements in the offering and sale of municipal securities, all as in effect from time to time.

"SEC" shall mean the U.S. Securities and Exchange Commission.

**Section 3. Obligations of the City.** (a) The City shall complete the preparation of the Annual Financial Information with respect to any Fiscal Year of the City not later than 270 days after the end of such Fiscal Year.

(b) The City shall, in accordance with the Rule, Make Public or cause to be Made Public by the Dissemination Agent (if other than the City), the Annual Financial Information within 30 days after it is prepared in final form.

(c) The City shall Make Public or cause to be Made Public by the Dissemination Agent (if other than the City), in a timely manner, notice of any of the following events that may from time to time occur with respect to the 2010 Bonds, but with respect to the items in (i) through (xi), only if material:

- (i) principal and interest payment delinquencies;
- (ii) non-payment related defaults;
- (iii) unscheduled draws on debt service reserves reflecting financial difficulties;
- (iv) unscheduled draws on any credit enhancement maintained with respect to the 2010 Bonds reflecting financial difficulties;
- (v) substitution of credit or liquidity providers, or their failure to perform;
- (vi) adverse tax opinions or events affecting the tax-exempt status of interest on the 2010 Bonds;
- (vii) modifications to rights of Holders;
- (viii) bond calls;
- (ix) defeasances;
- (x) release, substitution or sale of property securing repayment of the 2010 Bonds;
- (xi) rating changes; and
- (xii) the failure of the City on or before the date required by this Disclosure Agreement to provide Annual Financial Information to the persons and in the manner required by this Disclosure Agreement;

provided that nothing in this subsection (c) shall require the City to maintain any debt service reserve, credit enhancement or credit or liquidity providers with respect to the 2010 Bonds or to pledge any property as security for repayment of the 2010 Bonds.

(d) The City shall notify the MSRB of any change in its Fiscal Year not later than the date on which it first provides any information to the MSRB in the current Fiscal Year.

**Section 4. Information Made Public.** Information shall be deemed to have been "Made Public" for purposes of this Disclosure Agreement if transmitted the MSRB in an electronic format as prescribed by the MSRB. Should the SEC approve any additional or subsequent filing system for satisfying the continuing disclosure filing requirements of the Rule, any filings required under this Disclosure Agreement may be made by transmitting such filing to

such system, as described in the applicable SEC regulation or release approving such filing system.

**Section 5. Incorporation by Reference.** Any or all of the Annual Financial Information may be incorporated by specific reference from other documents, including official statements containing information with respect to the City, which are available to the public on the internet website of the MSRB or filed with the SEC. The City shall clearly identify each such other document so incorporated by reference.

**Section 6. CUSIP Numbers.** The City shall reference, or cause the Dissemination Agent (if other than the City) to reference, the CUSIP prefix number for the 2010 Bonds in any notice provided to the MSRB pursuant to Sections 3 and 4.

**Section 7. Termination of Reporting Obligation.** The obligations of the City under this Disclosure Agreement shall terminate upon the earlier to occur of the legal defeasance or final retirement of the 2010 Bonds.

**Section 8. Dissemination Agent.** The City may, from time to time, appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Disclosure Agreement and may discharge any such Agent, with or without appointing a successor Dissemination Agent. If at any time there is not any other designated Dissemination Agent, the City shall be the Dissemination Agent.

**Section 9. Amendment.** Notwithstanding any other provision of this Disclosure Agreement, the City may amend this Disclosure Agreement, if such amendment is supported by an opinion of independent counsel with expertise in federal securities laws addressed to the City and to the Participating Underwriter for the 2010 Bonds to the effect that such amendment is permitted or required by the Rule.

**Section 10. Additional Information.** Nothing in this Disclosure Agreement shall be deemed to prevent the City from disseminating any other information using the means of dissemination set forth in this Disclosure Agreement or any other means of communication, or including any other information in any Annual Financial Information or notice of occurrence of an event listed in Section 3(c), in addition to that which is required by this Disclosure Agreement. If the City chooses to report any information in any Annual Financial Information or include any information in a notice of occurrence of an event listed in Section 3(c), in addition to that which is specifically required by this Disclosure Agreement, the City shall have no obligation under this Disclosure Agreement to update such information or include it in any future Annual Financial Information or notice of occurrence of such an event.

**Section 11. Default.** Any Holder, whether acting jointly or severally, may take such action as may be permitted by law against the appropriate public official to secure compliance with the obligations of the City under this Disclosure Agreement. In addition, any Holder, whether acting jointly or severally, may take such action as may be permitted by law to challenge the adequacy of any information provided pursuant to this Disclosure Agreement, or to enforce any other obligation of the City hereunder. A default under this Disclosure Agreement shall not be deemed an event of default under the Ordinance, the Indenture, any 2010 Bond or

any other debt authorization of the City, and the sole remedy under this Disclosure Agreement in the event of any failure of the City to comply herewith shall be an action to compel performance. Nothing in this provision shall be deemed to restrict the rights or remedies of any Holder pursuant to the Securities Exchange Act of 1934, the rules and regulations promulgated thereunder, or other applicable laws.

**Section 12. Identifying Information.** All documents provided to the MSRB hereunder shall be accompanied by identifying information as prescribed by the MSRB.

**Section 13. Beneficiaries.** This Disclosure Agreement shall inure solely to the benefit of the City, the Participating Underwriters and Holders from time to time of the 2010 Bonds, and shall create no rights in any other person or entity.

**Section 14. Counterparts.** This Disclosure Agreement may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

[SIGNATURE PAGE FOLLOWS]

Date: September \_\_, 2010

**CITY OF NORFOLK, VIRGINIA**

By: \_\_\_\_\_  
City Manager,  
City of Norfolk, Virginia

By: \_\_\_\_\_  
Director of Finance,  
City of Norfolk, Virginia

AGREED TO AND ACKNOWLEDGED:

**U.S. BANK NATIONAL ASSOCIATION**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Approved as to Form and Correctness:

\_\_\_\_\_  
Office of the City Attorney  
Norfolk, Virginia

[SIGNATURE PAGE TO CONTINUING DISCLOSURE AGREEMENT]